驗證和識別SD-WAN的WAN中的資料包丟失

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簡介

本文檔介紹當流量在WAN上丟失,但在SD-WAN邊緣未發現丟包時,如何識別和收集資料。

必要條件

需求

思科建議您瞭解以下主題:

- 思科軟體定義廣域網路(SD-WAN)
- 內嵌式封包擷取或vManage封包擷取
- Wireshark
- Microsoft Excel

採用元件

本文中的資訊係根據以下軟體和硬體版本:

- C8000V版本17.03.04
- vManage版本20.3.4
- Wireshark版本2.6.3

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除(預設))的組態來啟動。如果您的網路運作中,請確保您瞭解任何指令可能造成的影響。

背景

為了協助解決此難題,本文檔中介紹的步驟說明如何使用差分服務代碼點(DSCP)標籤特定流量,以 幫助識別所需的資料包。DSCP可用於標識流量,因為該值是從內部資料包報頭複製到IPsec報頭。 一旦識別出所需的資料包,它就會顯示如何匹配兩個WAN捕獲之間的流量,以確保流量從源傳輸到 目的地。

兩個單路由器站點用於演示此故障排除技術。在此案例中,從10.0.0.10到10.0.2.10的ICMP流量形 式為100 ping,如下圖所示。在此範例中沒有遺失,但會在遺失的情況下使用相同的疑難排解技術 來識別遺失。



疑難排解程式

概觀過程

- 1. 對於通過WAN跟蹤的流量,需要訪問清單(ACL)(或集中策略)來標籤具有一些未使用 DSCP值的流量。在本示例中,使用了DSCP 27。
- 2. 標籤流量後,嵌入式資料包捕獲用於捕獲源路由器和目的路由器傳輸介面上的資料包。

註意:雖然有5MB資料或5分鐘運行時間的限制,但也可使用vManage資料包捕獲。

- 2. 在Wireshark中應用該過濾器,以顯示需要哪些資料包,然後對其進行比較。
- 3. Microsoft Excel用於大型捕獲,以確保準確性。

使用DSCP標籤所需的流量

在源路由器上配置了訪問清單(如示例中的cEdge1),並在路由器配置的SD-WAN部分的介面上應 用,如圖所示。

應用可選計數器以驗證流量是否按預期到達策略。可以使用show sdwan policy access-listcounters命令檢查此問題。

policy access-list mark_dscp_27 sequence 10 match source-ip 10.0.0.10/32 destination-ip 10.0.2.10/32

```
!
action accept
count MARK_DSCP_27_COUNT (optional counter to verify packets that hit the policy)
set
dscp 27
!
!
default-action accept
sdwan
```

interface GigabitEthernet3
access-list mark_dscp_27 in

使用嵌入式捕獲捕獲捕獲流量

注意:如何在Cisco IOS XE中配置嵌入式資料包捕獲,以捕獲穿越廣域網的加密資料包,請 導航至Embedded Packet Capture for Cisco IOS and Cisco IOS XE Configuration Example

註:必須使用ACL來限制WAN上的EPC,因為EPC的PPS速率限制可能超過1000。

範例

cEdge1和cEdge3上配置了ACL,因為在本示例中,流量僅在源到目的地的方向上被檢查。

註:WAN IP地址用於過濾捕獲。有多個輸出可用於標識流量所採用的路徑,以便可以為ACL過 濾器標識正確的WAN IP。可用於生成此輸出的命令是**show sdwan app-fwd cflowd flows**和 **show sdwan policy service path**。請導覽至<u>Conditional Packet Trace</u>以瞭解偵錯條件。

ip access-list extended CAP-Filter 10 permit ip host 192.168.23.149 host 192.168.28.240 這時,兩個路由器上都會啟動擷取,並在重疊上傳送了100個ping。

Success rate is 100 percent (100/100), round-trip min/avg/max = 1/1/4 ms 從兩台路由器停止捕獲並收集捕獲後,需要在Wireshark中開啟捕獲來檢視捕獲。

通過Wireshark進行分析

在Wireshark中開啟cEdge1捕獲後,會發現所有流量都經過加密,因此很難分辨哪些資料包是傳送的ping。

CAP.	pcap					- o	
File E	fit View Go Capture	Analyze Statistics	Telephony Wireless Tor	ols Help			
4 10	3 8 B B B B B	9 * * * * *		0			
	AGE 1997 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		- - - - - - - - - - -	**			_
Appl)	a display filter <ctrl-></ctrl->						2.
No.	Time	Source	Destination	Protocol Length	ESP Sequence	Differentiated Services Codepoint Source Port Destination Port Sequence Number Info	
r 🗆	1 0.000000	192.168.23.149	192.168.28.240	UOP	175	Class Selector 6 12386 + 12407 Len=133	
	2 0.563966	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 - 12407 Len=126	
	3 0.903996	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Len=133	
	4 1.428978	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len=126	
	5 1.896993	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 → 12407 Len=133	
	6 2.417977	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len=126	
	7 2.792958	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 - 12407 Len=133	
	8 3.323973	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len=126	
	9 3.781957	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Len+133	
	10 4.145988	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12306 + 12407 Len=126	
	11 4.769949	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Len+133	
	12 4.981995	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len+126	
	13 5.722954	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12306 + 12407 Len=133	
	14 5.970994	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len+126	
	15 6.532961	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Len+133	
	16 6.949999	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len+126	
	17 7.348980	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Len+133	
	18 7.923999	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Lene126	
	19 8,193990	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Len=133	
	20 8.774953	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12386 + 12407 Len+126	
	21 9.111993	192.168.23.149	192.168.28.240	UDP	175	Class Selector 6 12386 + 12407 Lene133	
	22 9.653957	192.168.23.149	192.168.28.240	UDP	168	Class Selector 6 12586 + 12487 Lene126	
	23 10.082988	192.168.23.149	192.168.28.240	UDP	1/5	Class Selector 6 12586 + 12487 Lene135	
	24 10.564957	192.168.25.149	192.166.26.240	UDP	168	Class Selector 6 12505 * 12407 Len*125	
	25 10.949999	192.168.23.149	192.168.28.240	UDP	1/5	Class Selector 6 12586 + 12487 Lene133	
	26 11.416978	192.168.23.149	192.165.25.240	UDP	168	Class Selector 6 12586 + 12487 Lene126	
	27 11.957991	192.100.23.149	192.100.20.240	000	1/5	Class Selector 6 12306 + 12407 (cm+135	
	20 12.400704	192.100.23.149	192.100.20.240	009	175	Class Selector 6 12006 - 12407 Lene120	
	29 12.030990	192.100.23.149	192.100.20.240	100	169	Class Selector 6 1200 + 12407 (en+13)	
	31 13 770058	102 168 23 140	102 168 28 240	100	175	Class Selector 6 12506 + 12407 Lene131	
	22 14 171000	103 168 33 140	103 168 38 340	100	176		
	33 14 173986	192, 168, 23, 149	192.168.28.248	LIDP	176	Default 1200 * 12407 Lenv134	
	34 14, 174978	192, 168, 23, 149	192.168.28.240	LIDP	176	Default 1300 * 1400 terrals	
	35 14 175985	192, 168, 23, 149	102 168 28 240	LIDP	176	Default 1200 * 12407 LEP#39 Default 1336 * 12407 Lep#34	
	36 14 176977	192, 168, 23, 149	192, 168, 28, 240	LIDP	176	Default 1300 * 1400 terning	
	37 14, 176977	192, 168, 23, 149	192.168.28.240	LIDP	176	Default 1236 4 1247 (cm)34	
	38 14 178991	192 168 23 149	102 168 28 240	LIDE	176	Default 1336 a 1347 bena	
						12/00 - 12/07 (UI-12/4	

使用顯示過濾器ip.dsfield.dscp == 27過濾此捕獲時,螢幕底部只顯示100個資料包,並且顯示 DSCP列值全部顯示27。

== 27								
Time Source	Destination	Protocol Len	ph ESP Sequence	Differentiated Services Codepoint	Durce Port Destination Por	t Sequence Number	Info	
451 55.441963 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
452 55.445976 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
453 55.448966 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
454 55.450965 192.168.23.149	192.168.28.240	UDP	176	27			12386 → 12407 Len=134	
455 55.452964 192.168.23.149	192.168.28.240	UDP	176	27			12386 → 12407 Len=134	
456 55.454963 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
457 55.455970 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
458 55.450977 192.168.25.149	192.168.28.240	UDP	176	27			12300 + 12407 Len+134	
409 55.45/900 192.100.23.149	192.100.20.240	100	176	27			12300 * 1240/ Len=134	
400 55.450975 192.108.25.149	192.168.28.240	000	176	27			12360 + 12407 Len+134	
401 55.401900 192.100.23.149	192.100.20.240	100	176	27			12300 * 12407 Len-134	
402 53.403703 192.100.23.149	192.100.20.240	100	176	27			12300 + 12407 Lene134	
465 55.4659504 192.100.25.249	103 168 38 340	100	176	27			12386 - 12407 Len-134	
465 55 467062 102 168 23 140	102 168 28 240	100	176	27			12386 + 12407 Lene134	
466 55 469961 102 168 23 149	192.168.28.240	100	176	27			12386 a 12407 Lena134	
467 55 470068 103 168 33 140	102 168 28 240	100	176	27			12386 - 12497 Len-134	
468 55 471075 102 168 23 140	192, 168, 28, 248	109	176	27			12386 a 12407 (enal34	
469 55.472967 192.168.23.149	192.168.28.240	LIDP	176	27			12386 a 12407 Lena134	
478 55.474966 192.168.23.149	192.168.28.240	LIDP	176	27			12386 + 12407 Len+134	
471 55.475973 192.168.23.149	192,168,28,240	LIDP	176	27			12386 + 12407 Len+134	
472 55,476965 192,168,23,149	192.168.28.240	LIDP	176	27			12386 + 12407 Len+134	
473 55.478963 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
474 55.488962 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
475 55,481969 192,168,23,149	192.168.28.240	LIDP	176	27			12386 + 12407 Len=134	
476 55.484975 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
477 55.485967 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
478 55.487966 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
479 55.488973 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
488 55.491963 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
481 55.508961 192.168.23.149	192.168.28.240	UDP	176	27			12386 → 12407 Len=134	
482 55.510959 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
483 55.511966 192.168.23.149	192.168.28.240	UDP	176	27			12386 → 12407 Len=134	
484 55.513965 192.168.23.149	192.168.28.240	UDP	176	27			12386 → 12407 Len=134	
485 55.514972 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
486 55.516971 192.168.23.149	192.168.28.240	UDP	176	27			12386 - 12407 Len=134	
487 55.517963 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
488 55.523959 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
489 55.524966 192.168.23.149	192.168.28.240	UDP	176	27			12386 + 12407 Len=134	
176 bytes on wire (1408 bits), 1 I, Src: Whware_84:af:45 (00:50:56 rotocol Version 4, Src: 192.168.2	76 bytes captured (14 :84:af:45), Dst: VNwa 3.149, Dst: 192.168.2	408 bits) are_84:e2:b7 (0 28.240	0:50:56:84:e2:b7)		4			
ram Protocol, Src Port: 12386, Ds bytes)	t Port: 12407							

在廣域網中維護DSCP值的某些情況下,可以在目標捕獲上使用相同的過濾器。

在其他情況下,這不可能,例如通過公共Internet連線清除DSCP值的情況。

按ESP序列過濾所需流量

無論哪種情況,都可以使用ESP序列號來標識流量。

要檢視資料包中的ESP序列號,請按一下右鍵捕獲並選擇Decode as (如圖所示)。

C. Profile: Default

Packets: 880 Displayed: 100 11.4%)

		12386
		12386
Mark/Upmark Packet	Ctrl+M	12386
		12386
Ignore/Unignore Packet	Ctrl+D	12386
Set/Unset Time Reference	Ctrl+T	12386
Time Shift	Ctrl+Shift+T	12386
Packet Comments	•	12386
Packet comments		12386
Edit Resolved Name		12386
		12386
Apply as Filter	•	12386
Prepare as Filter	•	12386
Comparentia - Filtra		12386
Conversation Filter	•	12386
Colorize Conversation	•	12386
SCTP	•	12386
Fellow		12386
Follow		12386
Copy	•	12386
copy		12386
Protocol Preferences	•	12386
Decode As		12386
		12386
Show Packet in New Window		12386

選擇Current field下拉選單,在該欄位中鍵入UDPENCAP,或從下拉選單中選擇。



V	Vi	in	esl	har	k	D	ec	0	d	e	As.
٠	•		-	101	~	-	~	v	u	-	~

Field	Value	Туре	Default	Current					
UDP port	12386	Integer, base 10	(none)	(none)					~
				(none) 3GPP2 A11 A21 AC DR ACtrace ADP ADwin ALC AMP					•
+ -	գ. (
					OK	Save	Copy from	Cancel	Help

 $\times \mid$

完成此操作後,選擇OK。

📕 Wiresl	hark · De	code As							×
Field	Value	Туре	Default	Current					
UDP por	12386	Integer, base 10	(none)	UDPENCAP					
+ -	ъ								
					ОК	Save	Copy from	Cancel	Help

在Wireshark Packet Details(Wireshark資料包詳細資訊)部分中,展開**資料包的Encapsulating** Security Payload(封裝安全負載)部分,檢視ESP序列。

	479 55 488973 192 168 23 14	9 192 168 28 2	40 FSP	176						
<	٢									
>	> Frame 464: 176 bytes on wire (1408 bits	s), 176 bytes captur	ed (1408 bits)							
>	> Ethernet II, Src: VMware_84:af:45 (00:5)	50:56:84:af:45), Dst	: VMware_84:e2:b7	(00:50:56:84:e2:b7)						
>	Internet Protocol Version 4, Src: 192.168.23.149, Dst: 192.168.28.240									
>	> User Datagram Protocol, Src Port: 12386	6, Dst Port: 12407								
	UDP Encapsulation of IPsec Packets									
N	Encapsulating Security Payload									
-	ESP SPI: 0X0400010C (6/109340)									
	ESP Sequence: 319									

按一下右鍵**ESP Sequence**,然後選擇**apply as**列,這樣ESP Sequence就作為Wireshark螢幕頂部 「Packet List」部分的列顯示。

	+ 1J2.100.2J.1+J	192.100.20.240	6.01
456 55.4	Evenned Subtrace		ESP
457 55.4	Expand Subtrees		ESP
458 55.4	Collapse Subtrees		ESP
459 55.4	Expand All		ESP
460 55.4	Collapse All		ESP
461 55.4	comprehen		ESP
462 55.	Apply as Column	Ctrl+Shift+I	ESP
463 55.			ESP
464 55.4	Apply as Filter	•	ESP
465 55.4	Prepare as Filter	•	ESP
466 55.4	Commention Filter		ESP
467 55.4	Conversation Filter	,	ESP
468 55.4	Colorize with Filter	•	ESP
469 55.4	Follow	+	ESP
470 55.4			ESP
471 55.4	Сору	•	ESP
472 55.4			ESP
473 55.4	Show Packet Bytes	Ctrl+Shift+O	ESP
474 55.4	Export Packet Bytes	Ctrl+Shift+X	ESP
Frame 464: 176 byt	Wiki Protocol Page		08 hits)
Ethernet II. Src:	Filter Field Reference		re 84:e2:b7 (0
Internet Protocol	Protocol Preferences	•	8.240
User Datagram Prot			[· - · ·
UDP Encapsulation	Decode As	Ctrl+Shift+U	
Encapsulating Secu	Go to Linked Packet		
ESP SPT 0x0400	d De skat in Mar	· Monday.	
ESP Sequence: 31	Show Link d Packet in Nev	wwindow	

註:cEdge1上資料包的ESP SPI是0x040001dc。這用於目標捕獲上的篩選器。

```
> Frame 464: 176 bytes on wire (1408 bits), 176 bytes captured (1408 bits)
> Ethernet II, Src: VMware_84:af:45 (00:50:56:84:af:45), Dst: VMware_84:e2:b7
> Internet Protocol Version 4, Src: 192.168.23.149, Dst: 192.168.28.240
> User Datagram Protocol, Src Port: 12386, Dst Port: 12407
UDP Encapsulation of IPsec Packets
> Encansulating Security Payload
ESP SPI: 0x040001dc (67109340)
ESP Sequence: 319
```

開啟目標捕獲,重複上述步驟以UDPENCAP形式解碼,並在資料包中顯示ESP序列號。

資料包顯示ESP序列號後,來自第一個捕獲的ESP SPI可以用作第二個捕獲的過濾器,以僅顯示該 SPI中匹配所需流量的流量。

請注意,匹配兩個資料包的序列號均標籤了DSCP 27。



此比較可以在Wireshark中手動完成,也可以使用Microsoft Excel進行此比較。

為了使用Microsoft Excel進行比較,需要對兩個捕獲進行切片,以便僅包含兩個捕獲中的資料包。

在源捕獲中,第一個相關資料包的ESP序列為306,對應於資料包編號451。

CAP.pcap)						-		\times
File Edit	View Go Capture	Analyze Statistics	Telephony Wireless Tools	Help					
) 📙 🛅 🗙 🖻	९ 🗢 🗢 🗟 👔	4 📃 📃 Q Q Q 🖽						
ip.dsfield.ds	scp == 27							\times	• +
No.	Time	Source	Destination	Protocol	Length	ESP Sequence		Different	^
	451 55.441963	192.168.23.149	192.168.28.240	ESP	176		306	27	
	452 55.445976	192.168.23.149	192.168.28.240	ESP	176		307	27	
	453 55.448966	192.168.23.149	192.168.28.240	ESP	176		308	27	
	454 55.450965	192.168.23.149	192.168.28.240	ESP	176		309	27	
	455 55.452964	192.168.23.149	192.168.28.240	ESP	176		310	27	
	456 55.454963	192.168.23.149	192.168.28.240	ESP	176		311	27	
	457 55.455970	192.168.23.149	192.168.28.240	ESP	176		312	27	
	458 55.456977	192.168.23.149	192.168.28.240	ESP	176		313	27	

源捕獲中的最後一個相關資料包的ESP序列為405,資料包編號為550。

	511 551000502		A.L. A.V. L. L. L.	10 M T	210	102 21	
	548 55.608962	192.168.23.149	192.168.28.240	ESP	176	403 27	
	549 55.609969	192.168.23.149	192.168.28.240	ESP	176	404 27	
	550 55.610960	192.168.23.149	192.168.28.240	ESP	176	405 27	
							1
<						>	

在目標捕獲中,第一個相關資料包對應於ESP序列306的源捕獲,但此捕獲是資料包463。

461 60.522028	192.168.23.149	192.168.28.240	ESP	168	407 Class Se
462 60.715026	192.168.23.149	192.168.28.240	ESP	175	408 Class Se
463 60.999008	192.168.23.149	192.168.28.240	ESP	176	306 27
464 61.003006	192.168.23.149	192.168.28.240	ESP	176	307 27

最後一個相關資料包也帶有ESP序列405,即資料包564。

560 61.165052	192.168.23.149	192.168.28.240	ESP	1/6	403 27	
561 61.166043	192.168.23.149	192.168.28.240	ESP	176	404 27	
562 61.166043	192.168.23.149	192.168.28.240	ESP	176	405 27	
563 61.431029	192.168.23.149	192.168.28.240	ESP	168	409 Class Se	
564 61.584021	192.168.23.149	192.168.28.240	ESP	175	410 Class Se	

現在,必須對第一個捕獲進行切片處理,以僅包含相關資料包。

導航到**檔案>匯出資料包剖析>作為CSV...**

	CAP.pcap										
File	Edit View Go Captur	e Analyze St	atisti	cs Telephony W	ireless Tools	Help					
	Open	Ctrl+O	E 3	5 🕭 📃 🔳 E	Q Q 🖽						
	Open Recent	+	F								
	Merge		F	Destination		Protocol Length					
	Import from Hex Dump		149	192.168.	28.240	ESP	cenger	176			
	Close	Ctrl+W	149	192.168.2	28.240	ESP		176			
		carrie	149	192.168.	28.240	ESP		176			
	Save	Ctrl+S	149	192.168.2	28.240	ESP		176			
	Save As	Ctrl+Shift+S	149	192.168.	28.240	ESP		176			
			149	192.168.	28.240	ESP		176			
	File Set	•	149	192.168.	28.240	ESP		176			
	Export Specified Packets		149	192.168.	28.240	ESP		176			
	Export Packet Dissections	•		As Plain Text	ESP		176				
	Export Dacket Puter	Ctrl. Chift. V			1.240	ESP		176			
	Export Packet bytes	Cur+Shirt+X		AS COV	1.240	ESP		176			
	Export PDUs to File			As "C" Arrays	.240	ESP		176			
	Export TLS Session Keys				.240	ESP		176			
	Export Objects	•			. 240	ESP		176			
				AS PDIVIL XIVIL	240	ESP		176			
	Print	Ctrl+P		As JSON	.240	ESP		176			
	Ouit Ctrl+O		149	192.168.	28.240	ESP		176			
-	247 22.000902	192.100.20	.149 192.168.28.240			ESP		176			
	548 55.608962	192.168.23	.149	192.168.	28.240	ESP		176			

選擇Captured和Range,然後在Range欄位中鍵入從第一個相關資料包到最後一個相關資料包的範圍。

在「File Name」欄位中輸入檔案名稱,然後按一下「Save」。

Save in:	Desktop		~	G 🤌	► 🔝 🏷	
Quick access	Name	^ No items n	natch your se	Status earch.	Date	modified
Desktop						
Libraries						
This PC						
Network	<					>
	File name:	CAP1_slice			~	Save
	Save as type:	CSV (Comma Separate	d Values sumr	mary) (*.c	sı ~	Cancel
						Help
	Packet Range					Pack
			O	aptured	O Displayed	Pa
	O All packets			880	100	
	O Selected pack	ket		1	1	Pa
	Marked packet Direct to last res	ets etc. et		0	0	F
	Range: 451	550		100	100	Pa
	Remove Ignor	red packets		0	0	Ea

對capture 2的相關資料包重複相同的過程。

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Auick access	Name	No	items match your s	Status earch.	Date	modified
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Libraries						
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	Save as type:	CSV (Comma	Separated Values sum	mary) (".c	s1 ~	Cancel
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	O Selected par	xet		1	1	⊡ Pa
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	Banne:	0.664		102	102	
	Berrowe loss	wad nackate		102	102	
	- Henove ign	neo packets		0		

在Microsoft Excel中開啟兩個CSV檔案。

在源捕獲CSV上,另存為**XLSX格式**。

Save As		
L Recent	↑ ▷ Desktop CAP1_slice	
Cisco	Excel Workbook (*.xlsx)	🔛 Save

在螢幕底部,選擇+符號以新增其他工作表。將其命名為CAP2_slice。

485 55.51497 192.168.2: 192.168.2ESP	176	340	27	ESP (SPI=0x040001dc)
486 55.51697 192.168.23 192.168.28 ESP	176	341	27	ESP (SPI=0x040001dc)
487 55.51796 192.168.2 192.168.2 ESP	176	342	27	ESP (SPI=0x040001dc)
CAP1_slice				

開啟CAP2 CSV文件,然後按CTRL +a選擇全部,並按CTRL + c進行複製。

J77 $\overline{}$: $\times \checkmark f_x$

1	Α	В	С	D	E	F	G	Н	1	J	K	L	М
1	No.	Time	Source	Destinatio	Protocol	Length	ESP Seque	Differenti	Source Po	Destinatio	Info	Sequence	Number
2	463	60.99901	192.168.2	192.168.28	ESP	176	306	27			ESP (SPI=	0x040001dc	
3	464	61.00301	192.168.2	192.168.28	ESP	176	307	27			ESP (SPI=	0x040001dd	
4	465	61.00506	192.168.2	192.168.28	ESP	176	308	27			ESP (SPI=	0x040001dc	
5	466	61.00706	192.168.2	192.168.28	ESP	176	309	27			ESP (SPI=	0x040001dd	
6	467	61.00905	192.168.2	192.168.28	ESP	176	310	27			ESP (SPI=	0x040001dc	
7	468	61.01006	192.168.2	192.168.28	ESP	176	311	27			ESP (SPI=	0x040001dc	
8	469	61.01105	192.168.2	192.168.28	ESP	176	312	27			ESP (SPI=	0x040001dd	
9	470	61.01305	192.168.2	192.168.28	ESP	176	313	27			ESP (SPI=	0x040001dc	
10	471	61.01406	192.168.2	192.168.28	ESP	176	314	27			ESP (SPI=	0x040001dc	
11	472	61.01606	192.168.2	192.168.28	ESP	176	315	27			ESP (SPI=	0x040001dc	
12	473	61.01806	192.168.2	192.168.28	ESP	176	316	27			ESP (SPI=	0x040001dd	
13	474	61.02106	192.168.2	192.168.28	ESP	176	317	27			ESP (SPI=	0x040001dc	
14	475	61.02205	192.168.2	192.168.28	ESP	176	318	27			ESP (SPI=	0x040001dd	
15	476	61.02306	192.168.2	192.168.28	ESP	176	319	27			ESP (SPI=	0x040001dc	
16	477	61.02506	192.168.2	192.168.28	ESP	176	320	27			ESP (SPI=	0x040001dc	
17	478	61.02605	192.168.2	192.168.28	ESP	176	321	27			ESP (SPI=	0x040001dc	

導航到CAP1_slice.xlsx檔案,然後在CAP2_slice的第二個頁籤上,將複製的資訊貼上(CTRL + v)到 單元格A1中。

Auto	Save On O	R	9- 9				CAP	1_slice.xlsx	• Saved •				2
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1	No.	Time	Source	Destinatio	Protocol	Length	ESP Seque	Differenti	Source Po	Destinatio	Info		Seque	nce N
2	463	60.99901	192.168.23	192.168.28	ESP	176	306	27			ESP	(SPI=0)x04000)1dc)
3	464	61.00301	192.168.23	192.168.28	ESP	176	307	27			ESP	(SPI=0)x04000)1dc)
4	465	61.00506	192.168.23	192.168.28	ESP	176	308	27			ESP	(SPI=0)x04000)1dc)
5	466	61.00706	192.168.23	192.168.28	ESP	176	309	27			ESP	(SPI=0)x04000)1dc)
6	467	61.00905	192.168.23	192.168.28	ESP	176	310	27			ESP	(SPI=0)x04000)1dc)
7	468	61.01006	192.168.23	192.168.28	ESP	176	311	27			ESP	(SPI=0)x04000)1dc)
8	469	61.01105	192.168.23	192.168.28	ESP	176	312	27			ESP	(SPI=0)x04000)1dc)
9	470	61.01305	192.168.23	192.168.28	ESP	176	313	27			ESP	(SPI=0)x04000)1dc)
10	471	61.01406	192.168.23	192.168.28	ESP	176	314	27			ESP	(SPI=0)x04000)1dc)
11	472	61.01606	192.168.23	192.168.28	ESP	176	315	27			ESP	(SPI=0)x04000	01dc)
12	473	61.01806	192.168.23	192.168.28	ESP	176	316	27			ESP	(SPI=0)x04000)1dc)
13	474	61.02106	192.168.23	192.168.28	ESP	176	317	27			ESP	(SPI=0)x04000)1dc)
14	475	61.02205	192.168.23	192.168.28	ESP	176	318	27			ESP	(SPI=0)x04000)1dc)
15	476	61.02306	192.168.23	192.168.28	ESP	176	319	27			ESP	(SPI=0)x04000)1dc)
16	477	61.02506	192.168.23	192.168.28	ESP	176	320	27			ESP	(SPI=0)x04000)1dc)
17	478	61.02605	192.168.23	192.168.28	ESP	176	321	27			ESP	(SPI=0)x04000)1dc)
18	479	61.02805	192.168.23	192.168.28	ESP	176	322	27			ESP	(SPI=0)x04000)1dc)
19	480	61.02906	192.168.23	192.168.28	ESP	176	323	27			ESP	(SPI=0)x04000)1dc)
20	481	61.02906	192.168.23	192.168.28	ESP	176	324	27			ESP	(SPI=0)x04000)1dc)
21	482	61.03005	192.168.23	192.168.28	ESP	176	325	27			ESP	(SPI=0)x04000)1dc)
22	483	61.03206	192.168.23	192.168.28	ESP	176	326	27			ESP	(SPI=0)x04000)1dc)
23	484	61.03306	192.168.23	192.168.28	ESP	176	327	27			ESP	(SPI=0)x04000)1dc)
24	485	61.03505	192.168.23	192.168.28	ESP	176	328	27			ESP	(SPI=0)x04000)1dc)
25	486	61.03606	192.168.23	192.168.28	ESP	176	329	27			ESP	(SPI=0)x04000)1dc)
26	487	61.03905	192.168.23	192.168.28	ESP	176	330	27			ESP	(SPI=0)x04000)1dc)
27	488	61.04105	192.168.23	192.168.28	ESP	176	331	27			ESP	(SPI=0)x04000)1dc)
28	489	61.04206	192.168.23	192.168.28	ESP	176	332	27			ESP	(SPI=0)x04000)1dc)
29	490	61.04406	192.168.23	192.168.28	ESP	176	333	27			ESP	(SPI=0)x04000)1dc)
30	491	61.04606	192.168.23	192.168.28	ESP	176	334	27			ESP	(SPI=0)x04000)1dc)
31	492	61.06305	192.168.23	192.168.28	ESP	176	335	27			ESP	(SPI=0)x04000	01dc)
32	493	61.06505	192.168.23	192.168.28	ESP	176	336	27			ESP	(SPI=0)x04000)1dc)
33	494	61.06705	192.168.23	192.168.28	ESP	176	337	27			ESP	(SPI=0)x04000)1dc)
34	495	61.06905	192.168.23	192.168.28	ESP	176	338	27			ESP	(SPI=0	x04000	01dc)
35	496	61.07105	192.168.23	192.168.28	ESP	176	339	27			ESP	(SPI=0)x04000)1dc)
36	497	61.07105	192.168.23	192.168.28	ESP	176	340	27			ESP	(SPI=0	x04000)1dc)
7	400	61 07005	100 160 00	100 160 00	F60	176	241	77			CCD.	(001-0	00000	

導航回CAP1_slice工作表並建立一個名為COMPARE_ESP_SEQUENCE的新列。

1	1	4	в	С	D	E	F	G	н	1.1	J	к	L	м	N	0	Р	Q	R
1	No.		Time	Source	Destinatio	Protocol	Length	ESP Seque	Differenti	Source Po	Destinatio	Info	Sequence	Number		COMPARE	_ESP_SEQ	JENCE	
2		451	55.44196	192.168.2	192.168.28	ESP	176	306	27			ESP (SPI=	0x040001dd	:)					
3		452	55.44598	192.168.2	192.168.28	ESP	176	307	27			ESP (SPI=	0x040001dd	;)					
		450	EE 44007	103 169 3	103 169 30	ren	176	200	27			ren (eni-		4					

由於ESP序列號位於列G中,請按照所示合成一個VLOOKUP命令,以比較兩個工作表,確保源上 列G中的所有內容都位於目標上的列G中。

=IF(ISNA(VLOOKUP(G2,CAP2_slice!G:G, 1,FALSE)),"MISSING","PRESENT")

· +	× ✓	f _x =IF	(ISNA(VLO	OKUP(G2,	CAP2_slice	IG:G,1,FAL	SE)),"MISS	ING","PRE	SENT")													
в	с	D	E	F	G	н	1	J	к	L	м	N	0	P	Q	R	s	т	U	v	w	x
'ime	Source	Destinati	c Protocol	Length	ESP Seque	Differenti	Source Po	Destinatio	Info	Sequence	Number		COMPA -	ESP_SEC	UENCE							
55.4419	6 192.168.2	192.168.2	ESP	176	306	27			ESP (SPI=	0x040001d	c)		=IF(ISNA(VLOOKUP	G2,CAP2_	slice!G:G,1	FALSE)),"N	MISSING","	PRESENT")			
55.4459	8 192.168.2	192.168.2	ESP	176	307	27			ESP (SPI=	0x040001d	c)			T								

選擇Enter後,將顯示PRESENT一詞。這表示在第二張表中**存在**ESP序列306的資料包。這非常重要,因為這意味著封包已從來源到達目的地。

	А	В	С	D	E	F	G	н	1	J	к	L	м	N	0	Р	Q	R	
1 N	No.	Time	Source	Destinatio	Protocol	Length	ESP Seque	Differenti	Source Po	Destinatio	Info	Sequence	Number		COMPA -	ESP_SEQ	JENCE		
2	451	55.44196	192.168.23	192.168.28	ESP	176	306	27			ESP (SPI=	0x040001dc)		PRESENT				
3	452	55.44598	192.168.23	192.168.28	ESP	176	307	27			ESP (SPI=0	0x040001dc)						

選擇**列O**行2,並將滑鼠懸停在該單元格周圍的綠色框的右下角。

N	0	Р	Q	R	S
	COMPARE	ESP_SEQ	JENCE		
	3 10				

選擇並按住滑鼠並向下拖動滑鼠,以便將此公式複製到有值的單元格的底部。

*		\times	~	f_{x}	=IF(ISNA(VLOOKUP(G2,CAP2_slice!G:G,1,FALSE)),"MISSING","PRESENT	(")
---	--	----------	---	---------	---	-----

В	С	D	E	F	G	н	1	J.	к		L	м	N	0	Р	Q	R	s	т	U	v	w
Time	Source	Destina	atic Protocol	Length	ESP Seque	Differenti	Source Po	Destinati	c Info	Sec	quence Nu	mber		COMPARE	ESP_SEC	UENCE						
51 55.441	196 192.168	3.23192.168	3.28 ESP	176	306	27			ESP (SP	PI=0x04	0001dc)			PRESENT								
52 55.445	598 192.168	3.23192.168	3.28 ESP	176	307	27			ESP (SP	PI=0x04	0001dc)											
53 55.448	397 192.168	3.23192.168	3.28 ESP	176	308	27			ESP (SP	PI=0x04	40001dc)											
54 55.450	097 192.168	3.23 192.168	3.28 ESP	176	309	27			ESP (SP	1=0x04	40001dc)											
55 55.452	296 192.168	3.23192.168	3.28 ESP	176	310	27			ESP (SP	1=0x04	0001dc)											
56 55.454	196 192.168	3.23 192.168	3.28 ESP	176	311	27			ESP (SP	1=0x04	10001dc)											
57 55.455	597 192.168	3.23 192.168	3.28 ESP	176	312	27			ESP (SP	21=0x04	40001dc)											
58 55.456	598 192.168	3.23 192.168	3.28 ESP	176	313	27			ESP (SP	PI=0x04	10001dc)											
59 55.457	797 192.168	3.2: 192.168	3.28 ESP	176	314	27			ESP (SP	21=0x04	0001dc)											
55.458	598 192.168	S.Z: 192.168	S.ZEESP	1/6	315	27			ESP (SP	1=0x04	10001dc)											
51 55.461	97 192.100	2:192.108	20000	170	310	27			ESP (SP	1=0×04	10001dc)											
53 55 465	596 192 165	2:192.100	25 FSD	176	318	27			ESP (SP	21=0x04	10001dc)											
54 55.466	597 192.168	2: 192.168	22 ESP	176	319	27			ESP (SP	PI=0x04	10001dc)											
55 55.467	796 192.168	.2: 192.168	3.28 ESP	176	320	27			ESP (SP	PI=0x04	0001dc)											
56 55,469	96 192.168	.2: 192.168	3.28 ESP	176	321	27			ESP (SP	PI=0x04	0001dc)											
57 55.470	97 192.168	3.2: 192.168	3.28 ESP	176	322	27			ESP (SP	1=0x04	40001dc)											
J37 .	00.00257	172.100.	22 172.100	-ZCEOP		1/0	374	4	/			COP	100-1-0	x04000100	-1		PR	COEINT				
540 5	55.60496	192.168.	23192.168	.28 ESP		176	395	2	7			ESF	P (SPI=0	x040001dd	c)		PR	ESENT				
541 5	55.60596	192.168.	2: 192.168	.28 ESP		176	396	2	7			ESF	(SPI=0	x040001d	c)		PR	ESENT				
542 5	55.60696	192.168.	2: 192.168	.28 ESP		176	397	2	7			ESF	(SPI=0	x040001d	c)		PR	ESENT				
543 5	55.60696	192.168.	2: 192.168	.28 ESP		176	398	2	7			ESF	(SPI=0	x040001d	c)		PR	ESENT				
544 5	55.60696	192.168.	2: 192.168	.28 ESP		176	399	2	7			ESF	P (SPI=0	x040001d	c)		PR	ESENT				
545 5	55.60796	192.168.	2: 192.168	.28 ESP		176	400	2	7			ESF	> (SPI=0	x040001d	c)		PR	ESENT				
546 5	55.60796	192.168.	2: 192.168	.28 ESP		176	401	2	7			ESF	· (SPI=0)	x040001d	c)		PR	ESENT				
547 5	55.60896	192.168.	23 192.168	.28 ESP		176	402	2	7			ESF	(SPI=0	x040001d	c)		PR	ESENT				
548 5	55.60896	192.168.	2:192.168	.28 ESP		176	403	2	7			ESF	(SPI=0	x040001d	c)		PR	ESENT				
549	55.60997	192.168	23192.168	.28 ESP		176	404	2	7			ESP	P (SPI=0	x040001d	c)		PR	ESENT				-
550	55,61096	192,168	2:192.168	28 ESP		176	405	2	7			ESE	CSPI=0	x040001d	2)		PR	ESENT				+
		202.200.										2.01	10.1-0.		.,	_						

回滾到工作表的頂部,然後按一下COMPARE_ESP_SEQUENCE。然後選擇排序和篩選。

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V	O COMPAR	P RE_ESP_SEQUEN	C R	S	Т	U	V	W	x	Y	

從下拉選單中選擇**Filter**。



COMPARE_ESP_SEQUENCE列上出現下拉菜單。

M	N	0	Р	
lumber		COMPA 👻	ESP_SEQ	UEN(
		PRESENT		
		PRESENT		
		PRESENT		

按一下**COMPARE_ESP_**SEQUENCE**標題上的下拉菜**單。請注意,在此範例中,顯示的唯一值為 PRESENT。這表示兩個擷取中都存在所有封包。

	к	L	м	N	0	
c Inf	0	Sequence	Number		COMPA -	ESI
ES	2↓ s	ort A to Z				
ES ES	Z↓ Sg	ort Z to A				
ES	Sor	<u>t</u> by Color			>	
ES	She	eet <u>V</u> iew			>	
ES	\	lear Filter Fro	om "COMPA	RE_ESP_SEQ	UENCE"	-
ES	Filt	er by Color			>	
ES	Tex	t <u>F</u> ilters			>	
ES	Se	arch			Q	_
ES	1	✓ (Select A	AII)			
ES		PRESEN	T			
ES						
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要建立有問題的示例,請從CAP2_slice刪除10個資料包,以演示在缺少某些丟失資料包的測試中如 何使用此示例。

11	4/2	01.01000 192.108.2: 192.108.28 ESP	1/0	315	27	ESP (SPI=0X0400010C)	
12	473	61.01806 192.168.23 192.168.28 ESP	176	316	27	ESP (SPI=0x040001dc)	
13	474	61.02106 192.168.23 192.168.28 ESP	176	317	27	ESP (SPI=0x040001dc)	
14	475	61.02205 192.168.23 192.168.28 ESP	176	318	27	ESP (SPI=0x040001dc)	
15	476	61.02306 192.168.23192.168.28 ESP	176	319	27	ESP (SPI=0x040001dc)	
16	477	61.02506 192.168.23 192.168.28 ESP	176	320	27	ESP (SPI=0x040001dc)	
17	478	61.02605 192.168.23 192.168.28 ESP	176	321	27	ESP (SPI=0x040001dc)	
18	479	61.02805 192.168.23 192.168.28 ESP	176	322	27	ESP (SPI=0x040001dc)	
19	480	61.02906 192.168.23192.168.28 ESP	176	323	27	ESP (SPI=0x040001dc)	
20	481	61.02906 192.168.23 192.168.28 ESP	176	324	27	ESP (SPI=0x040001dc)	
21	482	61.03005 192.168.23 192.168.28 ESP	176	325	27	ESP (SPI=0x040001dc)	
22	483	61.03206 192.168.23 192.168.28 ESP	176	326	27	ESP (SPI=0x040001dc)	
23	484	61.03306 192.168.23 192.168.28 ESP	176	327	27	ESP (SPI=0x040001dc)	
24	485	61.03505 192.168.23 192.168.28 ESP	176	328	27	ESP (SPI=0x040001dc)	
25	486	61.03606 192.168.23 192.168.28 ESP	176	329	27	ESP (SPI=0x040001dc)	
26	487	61.03905 192.168.23 192.168.28 ESP	176	330	27	ESP (SPI=0x040001dc)	
27	488	61.04105 192.168.23 192.168.28 ESP	176	331	27	ESP (SPI=0x040001dc)	
28	489	61.04206 192.168.23 192.168.28 ESP	176	332	27	ESP (SPI=0x040001dc)	
29	490	61.04406 192.168.23 192.168.28 ESP	176	333	27	ESP (SPI=0x040001dc)	
30	491	61.04606 192.168.23 192.168.28 ESP	176	334	27	ESP (SPI=0x040001dc)	
31	492	61.06305 192.168.23 192.168.28 ESP	176	335	27	ESP (SPI=0x040001dc)	
32	493	61.06505 192.168.23 192.168.28 ESP	176	336	27	ESP (SPI=0x040001dc)	
33	494	61.06705 192.168.23 192.168.28 ESP	176	337	27	ESP (SPI=0x040001dc)	
34	495	61.06905 192.168.23 192.168.28 ESP	176	338	27	ESP (SPI=0x040001dc)	
35	496	61.07105 192.168.23 192.168.28 ESP	176	339	27	ESP (SPI=0x040001dc)	
36	497	61.07105 192.168.23 192.168.28 ESP	176	340	27	ESP (SPI=0x040001dc)	
37	498	61.07205 192.168.23 192.168.28 ESP	176	341	27	ESP (SPI=0x040001dc)	
38	499	61.07605 192.168.23 192.168.28 ESP	176	342	27	ESP (SPI=0x040001dc)	
-	•	CAP1_slice CAP2_slice					

導覽回CAP1_slice工作表,現在發現有10個封包遺失。

	JJ. TJ JJ. 100. L. 132. 100. L. LJI	110	J14		201 (011-0404000200)	Theorem 1
460	55.45898 192.168.23192.168.28 ESP	176	315	27	ESP (SPI=0x040001dc)	PRESENT
461	55.46197 192.168.23192.168.28 ESP	176	316	27	ESP (SPI=0x040001dc)	PRESENT
462	55.46397 192.168.23 192.168.28 ESP	176	317	27	ESP (SPI=0x040001dc)	PRESENT
463	55.46596 192.168.2: 192.168.2ESP	176	318	27	ESP (SPI=0x040001dc)	MISSING
464	55.46697 192.168.2: 192.168.2ESP	176	319	27	ESP (SPI=0x040001dc)	MISSING
465	55.46796 192.168.2: 192.168.2ESP	176	320	27	ESP (SPI=0x040001dc)	MISSING
466	55.46996 192.168.2: 192.168.2EESP	176	321	27	ESP (SPI=0x040001dc)	MISSING
467	55.47097 192.168.2: 192.168.2ESP	176	322	27	ESP (SPI=0x040001dc)	MISSING
468	55.47198 192.168.2: 192.168.2EESP	176	323	27	ESP (SPI=0x040001dc)	MISSING
469	55.47297 192.168.2: 192.168.2ESP	176	324	27	ESP (SPI=0x040001dc)	MISSING
470	55.47497 192.168.2: 192.168.2ESP	176	325	27	ESP (SPI=0x040001dc)	MISSING
471	55.47597 192.168.2: 192.168.2EESP	176	326	27	ESP (SPI=0x040001dc)	MISSING
472	55.47697 192.168.23 192.168.28 ESP	176	327	27	ESP (SPI=0x040001dc)	MISSING
473	55.47896 192.168.2: 192.168.2EESP	176	328	27	ESP (SPI=0x040001dc)	PRESENT
474	55.48096 192.168.2: 192.168.2ESP	176	329	27	ESP (SPI=0x040001dc)	PRESENT

在**COMPARE**_ESP_SEQUENCE列上選擇了下拉選單後,現在會看到還存在**MISSING**資料包。可 以將其切換為僅檢視**MISSING數**據包。

	K	L	M	N	0
nf	0	Sequence	Number		COMPA -
S	<mark>2</mark> ↓ <u>s</u> o	ort A to Z			_
S	Z↓ S <u>o</u>	ort Z to A			-
S	Sor	<u>t</u> by Color			>
S	She	et <u>V</u> iew			>
S	_ <u>c</u>	lear Filter Fro	m "COMPA	RE_ESP_SEQ	UENCE"
S	Filt	er by Color			>
S	Tex	t <u>F</u> ilters			>
5	Sea	arch			Q
1 14 14 14 14 14 14 14 14 14 14		I (Select A I MISSING I PRESENT	. II) F		
5 5			0	K	Cancel .:



現在,Excel工作表只顯示缺少的資料包。

4	Α	В	C	D	E	F	G	н		J	K	L	M	N	0	P
	No.	Time	Source	Destinati	Protocol	Length	ESP Seque	Different	Source Po	Destinatio	Info	Sequence	Number		COMPA-T	_ESP_SEQ
4	463	55.46596	192.168.2	192.168.2	ESP .	176	318	27			ESP (SPI=	0x040001dc)		MISSING	
5	464	55.46697	192.168.2	192.168.2	ESP .	176	319	27			ESP (SPI=	0x040001dc)		MISSING	
6	465	55.46796	192.168.2	192.168.2	ESP	176	320	27			ESP (SPI=	0x040001dc)		MISSING	
7	466	55.46996	192.168.2	192.168.2	ESP .	176	321	27			ESP (SPI=	0x040001dc)		MISSING	
8	467	55.47097	192.168.2	192.168.2	ESP .	176	322	27			ESP (SPI=	0x040001dc)		MISSING	
9	468	55.47198	192.168.2	192.168.2	ESP	176	323	27			ESP (SPI=	0x040001dc)		MISSING	
0	469	55.47297	192.168.2	192.168.2	ESP	176	324	27			ESP (SPI=	0x040001dc)		MISSING	
1	470	55.47497	192.168.2	192.168.2	ESP .	176	325	27			ESP (SPI=	0x040001dc)		MISSING	
2	471	55.47597	192.168.2	192.168.2	ESP .	176	326	27			ESP (SPI=	0x040001dc)		MISSING	
3	472	55.47697	192.168.2	192.168.2	ESP .	176	327	27			ESP (SPI=	0x040001dc)		MISSING	
)2																
)3																

相關資訊

- <u>思科嵌入式封包擷取</u>
- <u>技術支援與文件 Cisco Systems</u>

關於此翻譯

思科已使用電腦和人工技術翻譯本文件,讓全世界的使用者能夠以自己的語言理解支援內容。請注 意,即使是最佳機器翻譯,也不如專業譯者翻譯的內容準確。Cisco Systems, Inc. 對這些翻譯的準 確度概不負責,並建議一律查看原始英文文件(提供連結)。