Nexus(NX-OS) 팁 및 요령

목차

소개 빠른 16진수/12월 변환 여러 CLI를 한꺼번에 실행 CLI 변수 사용 터미널 설정 사용자 지정 필요에 따라 명령 실행 지연 라우팅 컨텍스트/VRF 액세스 LC에 연결할 때 각 VDC에 대해 CLI 실행:N7k별 디버그 플러그인을 종료하지 않고 Linux Kernel과 NX-OS 간 전환 VSH를 통해 직접 구성 로드 Diffis 사용 - 카운터 간의 차이점을 나열합니다. Watch CLI 사용 - 7.0(3)I2(x) 이후 N9k 전용 내부적으로 CPU 사용량 확인 릴리스 내부 빌드 버전

소개

이 문서에서는 NX-OS를 통한 문제 해결 환경을 개선할 수 있는 몇 가지 빠른 팁과 요령을 설명합니 다.

빠른 16진수/12월 변환

16진수는 16진수를, 10진수는 12를 나타냅니다.

NX-OS# dec 0x89 137 NX-OS# hex 137 0x89

여러 CLI를 한꺼번에 실행

CLI는 명령줄 인터페이스를 의미합니다.

N7k-LabSW# show clock ; show switchname ; show license host-id 19:10:59.016 UTC Mon Apr 04 2016 N7k-LabSW License hostid: VDH=TBM14354170

컨피그레이션에 대해서도 작동합니다.

N7k-LabSW# show clock ; sleep 10 ; show clock 19:27:07.435 UTC Mon Apr 04 2016

필요에 따라 명령 실행 지연

N7k-LabSW# terminal width 300

N7k-LabSW# show terminal | i Width

Length: 25 lines, Width: 98 columns

Length: 25 lines, Width: 300 columns

N7k-LabSW# show terminal | i Width

긴 너비 출력의 새 줄로 출력을 나누지 않으려는 경우 유용합니다.

N7k-LabSW# terminal session-timeout 0 N7k-LabSW# show terminal | i Timeout Session Timeout: 0 minutes 2) 디스플레이 단말기의 너비/길이를 설정합니다.

N7k-LabSW# terminal session-timeout ? <0-525600> Enter timeout in minutes, 0 to disable

N7k-LabSW# show terminal | i Timeout Session Timeout: 30 minutes

1) 터미널 세션 시간 초과 방지:

터미널 설정 사용자 지정

CCO 참조

고유한 변수를 생성할 수도 있습니다.

N7k-LabSW# tac-pac bootflash:\$(SWITCHNAME)-\$(TIMESTAMP)-show-tech-all.gz N7k-LabSW# dir bootflash: | i show-tech-all Apr 05 08:41:27 2016 N7k-LabSW-2016-04-05-08.35.57-show-tech-all.gz 15091722

VSH Variable List (* = session vars) -----SWITCHNAME="N7k-LabSW" TIMESTAMP="2016-04-05-08.34.18"

N7k-LabSW# show cli variables

CLI 변수 사용

N7k-LabSW# show clock ; show run | ex .* ; show clock 07:56:08.709 UTC Tue Apr 05 2016 07:56:08.834 UTC Tue Apr 05 2016

CLI를 완료하는 데 걸린 시간:

N7k-LabSW# conf t ; hostname N7k-LabSW-DEFAULT ; end Enter configuration commands, one per line. End with CNTL/Z. N7k-LabSW-DEFAULT#

19:27:17.445 UTC Mon Apr 04 2016

라우팅 컨텍스트/VRF 액세스

VRF는 가상 라우팅 및 포워딩을 의미합니다.

명령에 VRF <>를 추가하지 않고 특정 VRF에 대해 CLI를 실행합니다.

N7k-LabSW# routing-context vrf management N7k-LabSW%management# sh ip route IP Route Table for VRF "management" '*' denotes best ucast next-hop '**' denotes best mcast next-hop '[x/y]' denotes [preference/metric] '%<string>' in via output denotes VRF <string> 0.0.0.0/0, ubest/mbest: 1/0 *via 10.48.61.129, [1/0], 1w4d, static 10.48.61.128/26, ubest/mbest: 1/0, attached *via 10.48.61.150, mgmt0, [0/0], 1w4d, direct 10.48.61.150/32, ubest/mbest: 1/0, attached *via 10.48.61.150, mgmt0, [0/0], 1w4d, local N7k-LabSW%management# N7k-LabSW%management# routing-context vrf default N7k-LabSW# sh ip route

IP Route Table for VRF "default"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
'%<string>' in via output denotes VRF <string>

LC에 연결할 때 각 VDC에 대해 CLI 실행:N7k별

VDC는 가상 디바이스 컨텍스트를 나타냅니다.

LC는 라인 카드를 의미합니다.

N7K는 Nexus 7000을 의미합니다.

LC에 연결되면 CLI는 기본 VDC와 관련하여 실행되거나 관련 명령에 대해 VDC 번호를 지정해야 합니다.

대신 라우팅 컨텍스트와 마찬가지로 VDC # 공간에서 CLI를 실행할 수 있습니다.

예:

N7k-LabSW# attach module 4														
Attaching to module 4														
To exit type 'exit', to abort type '\$.'														
module-4# show hardware mac address-table														
FE Valid PI BD MAC Index Stat SW Modi Age Tmr GM Sec TR NT RM														
RMA Cap Fld Always PV RD NN UC PI_E8 VIF SWID SSWID LID														
ic fied Byte Sel ure AP FY														
TURE Learn														
++++++++++++++++++++++++++++++++++														

		++					I	I	_									
		TT					1	0.01			-				-			~
4	T	T	2	0023	3.ac	66.I	dc⊥	10x0	007	T	0×000	0	0	0	T	0	0	0
0	0	0	0 (0 0x00 0			0	0	0x000 0x000			0x000 0x010c7						
5	1	1	2	0023	3.ac	66.1	dc1	0x01	0c7	1	0x000	0	0	0	1	0	0	0
0	0	0	0 0	02	x00	0	0	0	0	0x00	0 0x00	0 0x0	000 0x	010c7				
Command outputs from Default VDC are pulled here																		

module-4# vdc 6 >>>>> switches LC to pull this VDC specific outputs only module-4# show hardware mac address-table FE | Valid | PI | BD | MAC | Index | Stat | SW | Modi | Age | Tmr | GM | Sec | TR | NT | RM | RMA| Cap| Fld|Always| PV | RD| NN| UC|PI_E8| VIF | SWID| SSWID| LID | ic | | fied|Byte| Sel| | ure| AP| FY| |TURE| | Learn| | | | | | | | 0 1 1 92 0023.ac66.1dc6 0x010c7 1 0x000 0 0 1 0 0 0 0 0 0 0 0x00 0 0 0 0 0x000 0x000 0x000 0x010c7 0 0019.3074.9c02 0x00414 0 0x009 0 118 2 0 0 0 0 0 0 91 1 0 0 0 0x00 1 0 1 0 0x000 0x000 0x000 0x00414 0 0

디버그 플러그인을 종료하지 않고 Linux Kernel과 NX-OS 간 전환

N5600-Lab# load dplugg Loading plugin version 7.1(1)N1(1) Warning: debug-plugin is for engineering internal use only! For security reason, plugin image has been deleted. Successfully loaded debug-plugin!!! Linux(debug) # vsh >>>> Moves back to NX-OS prompt Cisco Nexus Operating System (NX-OS) Software TAC support: http://www.cisco.com/tac Copyright (c) 2002-2015, Cisco Systems, Inc. All rights reserved. The copyrights to certain works contained in this software are owned by other third parties and used and distributed under license. Certain components of this software are licensed under the GNU General Public License (GPL) version 2.0 or the GNU Lesser General Public License (LGPL) Version 2.1. A copy of each such license is available at http://www.opensource.org/licenses/gpl-2.0.php and http://www.opensource.org/licenses/lgpl-2.1.php N5600-Lab# show clock 20:20:07.468 UTC Mon Apr 04 2016 N5600-Lab# exit >>>> Moves back to Linux prompt Linux(debug)# Linux(debug)# clock Mon Apr 4 20:20:13 2016 -0.282195 seconds UTC

NOTE: "Debug Plugin" should only be used in presence of Cisco TAC and is not available for customer use.

Please do not modify any setting unless guided by Cisco TAC.

또는 디버그 플러그인에서 NX-OS CLI를 직접 실행할 수 있습니다.

Linux(debug)# vsh -c "show switchname" N5600-Lab Linux(debug)# vsh -c "show module" Mod Ports Module-Type Model Status --- ---- 1 52 Nexus 56128P Supervisor N5K-C56128P-SUP active *

Hw Mod Sw World-Wide-Name(s) (WWN) _____ ___ 7.1(1)N1(1) 1.1

_ _

<snipped>

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VSH를 통해 직접 구성 로드

VSH는 가상 셸을 나타냅니다.

NEXUS-LABSWICTH# echo "hostname LAB" | vsh LAB#

Mon Apr 4 20:51:14 2016:type=update:id=10.61.236.97@pts/1:user=admin:cmd=echo "hostname LAB" vsh (SUCCESS) Mon Apr 4 20:51:14 2016:type=start:id=vsh.9326:user=admin:cmd= Mon Apr 4 20:51:14 2016:type=update:id=vsh.9326:user=admin:cmd=configure terminal ; hostname LAB (SUCCESS)

LAB# echo "hostname NEXUS-LABSWITCH" | vsh NEXUS-LABSWITCH#

Mon Apr 4 20:51:23 2016:type=update:id=10.61.236.97@pts/1:user=admin:cmd=echo "hostname NEXUS-LABSWITCH" | vsh (SUCCESS) Mon Apr 4 20:51:23 2016:type=start:id=vsh.9390:user=admin:cmd= Mon Apr 4 20:51:23 2016:type=update:id=vsh.9390:user=admin:cmd=configure terminal ; hostname NEXUS-LABSWITCH (SUCCESS)

N5600-Lab# show run | i hostname | sed "s/N5600-Lab/N56128/" | vsh N56128# N56128# show accounting log | last 3 Mon Apr 4 21:23:23 2016:type=start:id=vsh.6762:user=admin:cmd= Mon Apr 4 21:23:23 2016:type=update:id=vsh.6762:user=admin:cmd=configure terminal ; hostname N56128 (SUCCESS) Mon Apr 4 21:23:23 2016:type=stop:id=vsh.6762:user=admin:cmd=

N5600-Lab# echo "hostname N56128" > bootflash:CLI N5600-Lab# N5600-Lab# show file CLI hostname N56128 N5600-Lab# show file CLI | vsh N56128#

Diffis 사용 - 카운터 간의 차이점을 나열합니다.

Diff는 차이를 나타냅니다.

N5600-Lab# show int mgmt0 | diff N5600-Lab# show int mgmt0 | diff 11,12c11,12 9393 input packets 829764 bytes < <141 unicast packets 3715 multicast packets 9395 input packets 830217 bytes > >142 unicast packets 3716 multicast packets 15,16c15,16 214 output packets 47396 bytes < <27 unicast packets 181 multicast packets _ _ _

Watch CLI 사용 - 7.0(3)I2(x) 이후 N9k 전용

N9K는 Nexus 9000을 의미합니다.

BRU-N9K3-1# watch differences interval 1 show int mgmt0 counter

Every 1.0s: vsh -c "show int mgmt0 counter"

Mon Apr 4 23:42:27 2016

<u>CCO reference</u>

내부적으로 CPU 사용량 확인

CPU는 중앙 처리 장치를 의미합니다.

이 명령은 CPU를 사용하는 프로세스를 5초마다(변경할 수 있음) 출력을 제공합니다.Linux **top 명령** 과 동일한 출력입니다.

NEXUS# show system internal processes cpu 5 | no-more

top - 12:41:55 up 117 days, 17:00, 5 users, load average: 0.44, 0.50, 0.55 Tasks: 2883 total, 2 running, 1022 sleeping, 0 stopped, 1859 zombie Cpu(s): 1.0%us, 0.9%sy, 0.0%ni, 98.0%id, 0.0%wa, 0.0%hi, 0.1%si, 0.0%st Mem: 32744992k total, 14563132k used, 18181860k free, 61308k buffers Swap: Ok total, Ok used, Ok free, 4091160k cached PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND 18465 admin 20 0 5200 3108 1148 R 16.6 0.0 0:00.17 top 6389 root 20 0 699m 53m 14m S 3.3 0.2 113:49.07 netstack 18473 root 20 0 97940 3804 2796 R 3.3 0.0 0:00.02 vsh 10 root 15 -5 0 0 0 S 1.7 0.0 9:10.85 ksoftirqd/2 4876 root 15 -5 369m 27m 6564 S 1.7 0.1 67:33.91 sysmgr 9581 svcisan 20 0 446m 41m 11m S 1.7 0.1 21:16.15 isis_12mp 1 root 20 0 1980 652 572 S 0.0 0.0 3:02.73 init 2 root 15 -5 0 0 0 S 0.0 0.0 0:00.03 kthreadd 3 root RT -5 0 0 0 S 0.0 0.0 0:00.49 migration/0 4 root 15 -5 0 0 0 S 0.0 0.0 22:48.66 ksoftirqd/0 5 root -2 -5 0 0 0 S 0.0 0.0 0:00.00 watchdog/0 6 root RT -5 0 0 0 S 0.0 0.0 0:00.65 migration/1 7 root 15 -5 0 0 0 S 0.0 0.0 2:27.70 ksoftirqd/1 top - 12:42:01 up 117 days, 17:00, 5 users, load average: 0.37, 0.48, 0.54 Tasks: 2887 total, 1 running, 1027 sleeping, 0 stopped, 1859 zombie Cpu(s): 1.0%us, 0.9%sy, 0.0%ni, 98.0%id, 0.0%wa, 0.0%hi, 0.1%si, 0.0%st Mem: 32744992k total, 14562360k used, 18182632k free, 61308k buffers Swap: 0k total, 0k used, 0k free, 4091160k cached PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND 18502 admin 20 0 5200 3112 1148 R 18.5 0.0 0:00.17 top 6389 root 20 0 699m 53m 14m S 1.7 0.2 113:49.08 netstack 6402 root -2 0 366m 13m 8660 S 1.7 0.0 1032:41 clx 9015 root 20 0 482m 21m 11m S 1.7 0.1 225:45.72 pm 10066 svc-isan 20 0 403m 22m 9.9m S 1.7 0.1 268:31.28 ospf 10487 svc-isan 20 0 354m 9992 6596 S 1.7 0.0 194:52.11 ecp 1 root 20 0 1980 652 572 S 0.0 0.0 3:02.73 init 2 root 15 -5 0 0 0 S 0.0 0.0 0:00.03 kthreadd 3 root RT -5 0 0 0 S 0.0 0.0 0:00.49 migration/0 4 root 15 -5 0 0 0 S 0.0 0.0 22:48.66 ksoftirgd/0 5 root -2 -5 0 0 0 S 0.0 0.0 0:00.00 watchdog/0 6 root RT -5 0 0 0 S 0.0 0.0 0:00.65 migration/1 7 root 15 -5 0 0 0 S 0.0 0.0 2:27.70 ksoftirqd/1

릴리스 내부 빌드 버전

N7k/N9k

N7k-LabSW# show version internal build-identifier Kickstart image file: bootflash:///n7000-s2-kickstart.6.2.10.bin : S102 System image file: bootflash:///n7000-s2-dk9.6.2.10.bin : S102

BRU-N9K3-1# show version internal build-identifier nxos image file: bootflash:///nxos.7.0.3.I2.2a.bin : S30 N5600-Lab# show platform fwm info global | i FwM FwM build Details: Built at Sat Apr 18 11:11:18 PDT 2015 on nuo-sw-build40 in directory /auto/n5kiluka/daily_build/iplus/nexus/522/src/build by buildsa)