Configure Standby APIC

Contents

Introduction Prerequisites Requirement Components Used Background Information Configuration Additional Procedures Verify Troubleshoot

Introduction

This document describes how to configure Cold Standby functionality on a Cisco Application Policy Infrastructure Controller (APIC). Standby APIC cluster enables you to operate the APICs in a cluster in an Active/Standby mode. In an APIC cluster, the designated active APICs share the load and the designated standby APICs can act as a replacement for any of the APICs in an active cluster.

Standby APIC feature was added starting from Danube Release (ACI 2.2 software version).

Prerequisites

Requirement

Cisco recommends that you have knowledge of these topics:

- Out-of-Band Management (OOB) on the Fabric
- Apic Clustering

Components Used

The information in this document is based on ACI Fabric running software version 3.1(1i).

The document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

- It is supported by a single and Multipod setup.
- Standby APIC can be connected to any leaf in any POD in the Fabric. Restores editing

functionality in a Fabric/POD in minority.

- The standby APIC is automatically updated with firmware updates to keep the backup APIC at the same firmware version as the active cluster.
- During an upgrade process, once all the active APICs are upgraded, the standby APIC is also be upgraded automatically.
- Temporary IDs are assigned to standby APICs. After a standby APIC is switched over to an active APIC, a new ID is assigned.
- Admin log in is not enabled on standby APIC.
- To troubleshoot Cold Standby, you must log in to the standby using SSH as rescue-user.
- During switchover the replaced active APIC is powered down, to prevent connectivity to the replaced APIC. Standby APIC does not participate in policy configuration or fabric management.
- Cisco recommends standby APICs in the same POD as the active APICs it can replace. No data is replicated to standby unit, not even admin credentials (Rescue-user log in works).
- The standby APIC does not participate in policy configuration or management.
- No information is replicated to standby controllers, including admin credentials.

Configuration

Starting version 2.2, Initial Configuration Script prompts a new question asking whether this APIC is Standby or not, default is **[NO]**, once the answer is **[YES]**, Standby Controller ID must be chosen, which can be the number of Active APICs +1 until 29, recommended range would be starting from 21 - 29.

- There must be three active APICs in order to add a standby APIC.
- The minimum cluster size required is 3 a number higher can be Standby.
- Standby APIC must be brought in to the cluster with the same version as the Active APIC.
- Cisco recommends to keep standby APICs in the same POD as the active APICs it can replace.

As a part of the discovery process, the Standby APIC must match:

Fabric Domain Infra VLAN TEP Address Pool Serial Number Approved - in Strict Mode Certificate validation



Once the configuration is submitted, the Standby APIC is auto-discovered by the Active Cluster, and it can be seen under Standby Controllers.

In order to change the status to **Approve**, click on **Do Something** (current status) and then select **Accept Controller**, as shown in the image.

APIC									admin	۹ (۹	œ	\$
em Tenants Fabric Virtual N	vetworking L4-L	7 Services Admin C	Operations Apps									
itart I Dashboard I Controllers I Syst	em Settings I Smart I	Licensing I Faults I Confi	hg Zones I Events I	Audit Log Active Se	essions							
ntrollers	0 0	Cluster as Seen	n by Node									¢
Controllers											0 ±	
 bdsol-aci01-apic1 (Node-1) 		Properties										
Interfaces				Fabric Name: POD01								
Storage				Current Size: 3								
NTP Details		Difference Betwee	en Local Time and Unified Cl	uster Time (ms): 20123								
Equipment Fans		ACI Fabric Interno	ode Secure Authentication C	Communications: Permis	sive 🗸							
> Power Supply Units		Active Controllers										
Processes		▲ ID	Name	IP	Admin State	Operational State	Health State	Fallover Status	Serial Number	SSL C	ertificate	
> Containers		1	bdsol-aci01-apic1	10.0.0.1	In Service	Available	Fully Fit	idle	FCH1824V2GP	yes		
bdsol-aci01-apic2 (Node-2)		2	bdsol-aci01-apic2	10.0.0.2	In Service	Available	Fully Fit	idle	FCH1825V0QA	yes		
bdsol-aci01-apic3 (Node-3)		5	busici acion apres	10.0.0.0	11 001100		1 day 1 h	iun.	10110247212	105		
Quick Start												
Controller Policies		Standby Controllers	5	IP		Mode		5	State			
		FCH2226VCHY		10.0.0.5		Standby	pic		Do Something			
									admin	• •		
I. APIC am Tenants Fabric Virtual	Networking L4-I	L7 Services Admin	Operations Apps						admin	8 🖓	•	(
In APIC m Tenants Fabric Virtual ant Litashbard Controllers Sy trollers	Networking L4- stem Settings I Smar	L7 Services Admin rt Loomsing Fauts Cor) Cluster as See	Operations Apps nhg Zones I Events I en by Node	Audit Log Active \$	Sessions				admin (0,0	•	
Tenants Fabric Virtual ant I Dashbourd Controllens Sy trollers I Controllers	Networking L4-L stem Settings I Smar	L7 Services Admin rt Lornsing Faults Cor O Cluster as See	Operations Apps ntg Zones I Events I 2n by Node	Audit Log Active 5	Sessions				admin (0,0		
APIC Tenants Fabric Virtual at Dastboard Controllers Sy trollers Controllers Controllers Dasch-apic1 (Node+1)	Networking L4-i stem Settings Smar	L7 Services Admin rt Looming Faults Cor Cluster as See Properties	Operations Apps intg Zones I Events I en by Node	Audit Log Active 5	Sessions				admin	8 🖓	0 <u>+</u>	
APIC Tenants Fabric Virtual tart 1 Dashbourd I Controllers Controllers Dostonations Dostonations Dostonations Controllers Dostonations Controllers	Networking L4- stem Settings I Smart () () ()	L7 Services Admin r Locening Fauts Cor Cluster as See Properties	Operations Apps intg Zones I Events I en by Node	Audit Log Active 5 Fabric Name: POD01	Sessions				admin	8	0 -	
APIC Tenants Fabric Virtual tat 1 Dashboard Controllers Sy trollers butor-acid 1-apic1 (Node-1) Custor as Seen by Node Strone	Networking L4- stem Settings I Smor	L7 Services Admin r Loeming Fauts Cor Cluster as See Properties	Operations Apps rhg.2ones I Events I en by Node	Audt Log Active 3 Fabric Name: POD0 Tanget Size: 3	Sessions				admin (0	• •	
APIC Tenants Fabric Virtual Costoburc C Controllers Costoburc C Controllers Costoburc (Rode-1) Custer as Seen by Node Intro Custer Intro Custer Intro Desits	Networking L4- stem Settings (Smar () () ()	L7 Services Admin rt Leensing Fauts Cor Cluster as See Properties Difference Betwe	Operations Apps ma Zones I Events I en by Node	Aust Log I Active 3 Fabric Name: POOO Target Size: 3 Current Size: 3 Current Size: 3	Sessions				admin (9 🖓	• • •	
APIC Tenants Fabric Virtual Consolations Consolations Consolations Consolations Consolations Consolation Interfaces	Networking L4- sem Setting 1 Snd	L7 Services Admin rt Leensing i Fauts Cor Cluster as See Properties Difference Betwe ACI Fabric Inter	Operations Apps rdg Zones I Events I en by Node een Local Time and Unified (C node Secure Authentication	Audt Log I Active 3 Fabric Name: PODO Target Size: 3 Current Size: 3 Zuster Tim (ms): 2023 Communications: [Permi	Sessions 1 Issilve y				admin (9 🖓	0 <u>+</u>	
APIC Tenants Fabric Virtual Tenants Controllers Contrels Controllers Controllers Controllers	Networking L4- sten Seturg 1 Sma () () ()	L7 Services Admin rt Lemma I Fauts Cor Cluster as See Properties Difference Betwe ACI Fabric Inter Active Controllers	Operations Apps http://www.apps.com/apps/ en/by/Node	Audz Log I Active 3 Fabric Name: PODO Target Size: 3 Current Size: 3 Duaset Time (ms): 20123 Communications: Permi	Sessions 1 I SSIVe V				admin (9 🖓	• •	
APIC Tenants Fabric Virtual I Dashboard I Controllers I Sy trollers Controllers Controlers Controllers Controllers Controllers Controller	Networking L4- stem Setting 1 Sma	L7 Services Admin rt Lorming I Faults I Cor Cluster as See Properties Difference Betwer ACI Fabric Intern Active Controllers + 10	Operations Apps rfg Zones I Events I en by Node een Local Time and Unified 0 mode Secure Authentication Name	Audz Log I Active S Fabric Name: PODO Target Size: 3 Ourrent Size: 3 Dutare Time (ms): 20123 Communications: Permi IP	Sessions	Operational State	Health State	Fallover Status	admin (SSL (○ ±	
APIC Tenants Fabric Virtual Tenants Fabric Virtual Controllers	Networking L4- stem Setting 1 Sina	L7 Services Admin rt Loroning I Fauts I Cor Cluster as See Properties Difference Betwo ACI Fabric Intern Active Controllers + 10 1	Operations Apps ntg.zones I Events I en by Node een Local Time and Unified of mode Secure Authentication Name bdsol-aci01-apic1	Austr Log 1 Active 2 Fabric Name: PODO Target Size: 3 Current Size: 3 Juster Time (ms): 20123 Communications: Permi IP 10.0.0.1	Sessions	Operational State (Avalable)	Health State Fully Fit	Fallover Status idle	admin Serial Number FCH1824V2GP	SSL 0 yes	Certificate	
APIC Tenants Fabric Virtual Tenants Fabric Virtual Controllers Controllers Controllers Controllers Controllers Controllers Storage MTP Details Equipment Fans Sorage MTP Details MTP Details Equipment Fans Sorage MTP Details MT	Networking L4- tem Settings) Snar	L7 Services Admin T Leeving Facts Cor Cluster as See Properties Difference Betwe ACI Fabric Inter Active Controllers + ID 1 2	Operations Apps Mg Zones I Events I en by Node een Local Time and Unified O mode Secure Authentication Name bdsol-aci01-apic1 bdsol-aci01-apic2	Audit Log 1 Active 3 Patric Name: PODO Target Size: 3 Current Size: 3 Communications: Permi IP 10.0.0.1 10.0.2	Sessions 1 I Ssilve V Admin State In Service In Service	Operational State Available	Health State Fully Fit Fully Fit	Fallover Status idle idle	admin Serial Number FCH1824V2GP FCH1824V2GP	SSL 0 yes yes	Certificate	
APIC Tenants Fabric Virtual Controllers Controlers Controlers Control	Networking L4- teen Settings) Sour C ()	L7 Services Admin T Loewing Fauts Cor Cluster as See Properties Difference Betwe ACI Patric Inter Active Controllers * 10 1 2 3	Operations Apps thg Zones I Events I en by Node een Local Time and Unified O mode Secure Authentication Name bdsol-ac01-apic1 bdsol-ac01-apic2 bdsol-ac01-apic3	Audition i Active S Pabric Name: PODO Target Size: 3 Current Size: 3 Current Size: 3 Communications: [Permi iP 10.0.0.1 10.0.0.2 10.0.0.3	Sessions	Operational State Available Available Available	Health State Fully Fit Fully Fit Fully Fit	Fallover Status idle idle idle	admin Serial Number FCH1824V2GP FCH1824V2FL	SSL 0 Yes Yes Yes	O ±	
APIC Tenants Fabric Virtual Castrboard Controllers Con	Networking L4- sten Setting 1 Sno () ()	L7 Services Admin rt Leenarg Fauts Cor Cluster as See Properties Difference Betwe ACIF abits Intern Active Controllers + 10 1 2 3	Operations Apps thg 20ne 1 Events 1 en by Node een Local Time and Unified O node Secure Authentication Name bdsol-acl01-apic1 bdsol-acl01-apic3	Audt Log i Active S Fabric Name: PODO Target Size: 3 Communications: [Permi 10.0.0.1 10.0.0.2 10.0.0.3	Sessions Sissive v Admin State In Service In Service In Service	Operational State Evaluation (Available) (Available)	Health State Fully Fit Fully Fit Fully Fit	Fallover Status Idle Idle Idle	admin Sertal Number FCH1824V2GP FCH1824V2FL	SSL 0 yes yes	C ±	
APIC Tenants Fabric Virtual Controllers Controllers Controllers Controllers Interfaces Storage NTP Details Equipment Fans Processes Controllers	Networking L4- sten Setting 1 Snd () () () () () () () () () () () () () (L7 Services Admin rf Leenarg Fauts Cor Cluster as See Properties Dtifference Betwe ACI Fabric Inten Active Controllers - 10 1 2 3 Standby Controllers - 50 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Operations Apps rhg Zones I Events I en by Node en Local Time and Unified of mode Secure Authentication Name bdsol-aci01-apic1 bdsol-aci01-apic3 rs	Austiling i Active S Fabric Name: POOO Target Size: 3 Currer Time (mis: 2012) Communications: Permi IP 10.0.0.1 10.0.0.2 10.0.0.3	Sessions	Operational State (Available (Available) (Available)	Health State Fully Fit Fully Fit Fully Fit	Fallover Status Idle Idle	admin Serial Number FCH1824V2GP FCH1825V0QA FCH1825V0QA FCH1824V2FL	SSL 0 yes yes	C ±	
APIC Tenants Fabric Virtual Controllers Co	Networking L4- sten Seturg 1 Sna () () () () () () () () () () () () () (L7 Services Admin rf Lcensrg Fauts Cor Cluster as See Properties Difference Betwe ACI Fabric Inter Active Controllers + I0 1 2 3 - Standby Controller Serial Number Foreigo220cchy	Operations Apps rhg Zones I Events I en by Node en Local Time and Unified (mode Secure Authentication Name bdsol-aci01-apic1 bdsol-aci01-apic3 bdsol-aci01-apic3 fs	Austrillog i Active S Fabric Name: PODO Target Size: 3 Curremen (size: 3) Curremen (size: 3) Curremen (size: 3) Communications: Permi IP 10.0.0.1 10.0.2 10.0.3	Sessions	Operational State (Avalable) (Avalable) (Avalable) (Avalable)	Health State Fully Fit Fully Fit Fully Fit Addic	Fallover Status idle idle	admin Serial Number FCH1824/20P FCH1824/20P FCH1824/2FL State	SSL (yes yes	○ <u>+</u>	
APIC Tenants Fabric Virtual Tenants I Controllers Controllers Controllers Controllers Controllers Controllers MYP Decids Ecupment Seniors Power Supply Units Ecupment Seniors Power Supply Units Ecupment Seniors Power Supply Units Controller Policies	Networking L4- tem Seturg 1 Sma () () () () () () () () () () () () () (L7 Services Admin rt Leerwing FAUS Cor Cluster as See Properties Difference Betwe ACI Fabric Inter Active Controllers + I0 1 2 3 Standby Controller Serial Number FCH2220VCHY	Operations Apps r/g Zones I Events I en by Node en Local Time and Unified (mode Secure Authentication Name bdstol-ac01-apic1 bdstol-ac01-apic2 bdstol-ac01-apic3 rs	Austr Log i Active S Fabric Name: PODO Target Size: 3 Current Size: 3 Current Granulations: Permi P 10.0.0.1 10.0.2 10.0.0 P 10.0.05	Sessions	Operational State Evaluation Available Available Mode Standby	Health State Fully Fit Fully Fit Fully Fit	Fallover Status idle idle	admin Serial Number FCH1824V20P FCH1824V20P FCH1824V20P FCH1824V20P FCH1824V20P FCH1824V20P	SSL Vas Vas	○ <u>+</u>	
APIC Tenants Fabric Virtual Instrboard Controllers Controllers bdsol-acid1-agict (Node-1) Costra Scent by Node Interfaces Storage MTP Details Equipment Fans Power Supply Units Equipment Fans Power Supply Units Equipment Fans Details Power Supply Units Equipment Fans Details Power Supply Units Equipment Fans Details Power Supply Units Power S	Networking L4- stem Setting I Sma () () () () () () () () () () () () () (L7 Services Admin rt Leerway I Fauts Corr Cluster as See Properties Difference Betwe AG Fabric Inter Active Controllers + ID 1 2 3 Standby Controllers FCH2228VCHY	Operations Apps ntg Zones I Events I en by Node en Local Time and Unified of mode Secure Authentication Name bdsol-ac01-apic1 bdsol-ac01-apic2 bdsol-ac01-apic3 rs	Audt Log I Active 3 Fabric Name: PODO Target Size: 3 Current Size: 3 Current Size: 3 Current Size: 3 Current Size: 3 Communications: Permi ID.0.0.1 10.0.02 ID.0.03 ID.0.03	Sessions	Operational State (Avalation)	Health State Fully Fit Fully Fit Fully Fit Apic	Fallover Status Idle Idle	admin Serial Number FCH1824/2GP FCH1824/2GP State	S 58. 6 1955 1955 1955	• • •	
APIC Tenants Fabric Virtual to Controllers Controllers through a controller through a controller of the controller of the controller through a controller of the control	Networking L4- stem Setting 1 Sena () () () () () () () () () () () () () (L7 Services Admin T Ceeving Facts Cor Cluster as See Properties Difference Betwe ACI Fabric Inter ACI Fabric Inter ACI Fabric Inter ACI Fabric Inter 1 2 3 Standby Controllers Foli2228VCHY	Operations Apps rdg Zores I Events I en by Node een Local Time and Unified O node Secure Authentication Name bdsol-aci01-apic1 bdsol-aci01-apic3 rs	Audit Log 1 Active 3 Patric Name: PODO Target Size: 3 Current Size: 3 Current Size: 3 Communications: Permi 10.0.0.1 10.0.0.2 10.0.0.3 10.0.0.5	Sessions	Operational State Available Available Available Mode Standby	Health State Fully Fit Fully Fit Fully Fit Fully Fit	Fallover Status ktle ktle ktle	admin Serial Number FCH1824V20P FCH1824V20A FCH1824V2FL State Notenthale Accept Counsiler Reper Counsiler Reper Counsiler	S. 55. 6 1945 1945 1945	Certificate	
Image: Second	Networking L4- stem Setting 1 Sina () () () () () () () () () () () () () (L7 Services Admin T Locaring Facts Con Cluster as See Properties Difference Betwe ACF Facts Inter Active Controllers ND 1 2 3 Standby Controllers Foriz228VCHY Ungutborized Cont	Operations Apps Mg Zones I Events I en by Node een Local Time and Unified G mode Secure Authentication Name bdsol-ac/01-apic1 bdsol-ac/01-apic2 bdsol-ac/01-apic3 rs trollors	Audition 1 Active 3 Patric Name: PODO Target Size: 3 Current Size: 3 Current Size: 3 Current Size: 3 Communications: Permi 10.0.0.1 10.0.0 10.0 10	Sessions	Operational State Available Available Available Mode Standby	Health State Fully Fit Fully Fit Fully Fit Aplic	Fallover Status Ictle Ictle Ictle	admin Serial Number FCH1824V2GP FCH1824V2GP FCH1824V2FL State Normathing Repet Counsiler Repet Counsiler	SSL 355L 1985 1985	Certificate	
APIC Tenants Fabric Virtual Start Distributed Vortel Controllers Controller Controller Controller Controller Power Supply Units Equipment Fans Power Supply Units Equipment Sensors Poconsise Controller Sensor Controller Sensor Controller Sensor Controller Sensor Controller Policies Controller Policies Controller Policies Controller Sensor Controlle	Networking L4- tem Setting 1 Sina C C C	L7 Services Admin r Loenny Fauts Con Cluster as See Properties Difference Betwe ACIFAbric Inten Active Controllers * ID 1 2 3 Standby Controllers Foli2228VCHY Unauthorized Cont Setial Number	Operations Apps thg Zones I Events I even Local Time and Unified O mode Secure Authentication Name Ddsol-ac/01-apic1 Ddsol-ac/01-apic3 rs trollers	Audt Log i Active S Fabric Name: PODO Target Size: 3 Current Size: 3 Current Size: 3 Current Size: 3 Communications: [Permi 10.0.0.1 10.0.0.2 10.0.0.3 III III 10.0.0.5	Sessions	Operational State (Available)	Health State Fully Fit Fully Fit Fully Fit Apic	Fallover Status idle idle idle	admin Serial Number FCH1824V2GP FCH1824V2GP FCH1824V2FL State PSStee PSStee State St	SSL SSL yes yes	Certificate	
APIC Tenants Fabric Virtual Controllers Controllers Controllers Controllers Controllers Controllers Controllers Controllers Dedata Equipment Fans Power Supply Units Equipment Sensors Processes Controller Controllers	Networking L4- Isten Setting 1 Snd I State (State (L7 Services Admin rt Leenarg Fauts Con Cluster as See Properties Dtherence Betwe ACIF abits Inter Active Controllers + 10 1 2 3 Standby Controllers Foot22eVCHY Unauthorized Cont Serial Number Foot22eVCHY	Operations Apps thy 20ne 1 Events 1 en by Node en Local Time and Unified G node Secure Authentication Name Ddsol-aci01-apic1 Ddsol-aci01-apic3 rs trollers	Audt Log i Active S Fabric Name: PODO Target Size: 3 Current Size: 3 Current Size: 3 Communications: [Permi 10.0.0.1 10.0.0.2 10.0.0.3 IP 10.0.0.5	Sessions	Operational State (valace) (valace) (valace) (valace) Mode Standby	Health State Fully Fit Fully Fit Fully Fit	Fallover Status idle idle idle	admin Serial Number FCH1824/2GP FCH1824/2GP FCH1824/2GP State State Neget Committer Exact Detate Commit Save as Pon Base	SSL 554	Certificate	

cisco APIC									admin 🔍		0
System Tenants Fabric Virtual Networkin	a 14-17 Se	nvices Admin Or	perations Apps							•	
OulckStart Dashboard Controllers System Settings	s I Smart Licen	sing I Faults I Config	Zones I Events I	Audit Log Active Se	essions						
Controllers	0 0 0	Cluster as Seen	by Node								00
✓ ☐ Controllers											41
✓ (■ bdsol-aci01-apic1 (Node-1)										0 -	. ~*
Cluster as Seen by Node		Properties		Eabria Namai DODO1							
interfaces				Target Size: 3							
Storage				Current Size: 3							
NTP Details		Difference Between	Local Time and Unified Cl	uster Time (ms): 20130							
Equipment Fans		ACI Fabric Internod	le Secure Authentication C	communications: Permis	sive 🗸						
> E Power Supply Units		Active Controllers									
Equipment Sensors		▲ ID	Name	IP	Admin State	Operational State	Health State	Failover Status	Serial Number	SSL Certificate	
Processes		1	bdsol-aci01-apic1	10.0.0.1	In Service	Available	Fully Fit	idle	FCH1824V2GP	yes	
> E Containers		2	bdsol-aci01-apic2	10.0.0.2	In Service	Available	Fully Fit	idle	FCH1825V0QA	yes	
bdsol-aci01-apic2 (Node-2)		3	bdsol-aci01-apic3	10.0.0.3	In Service	Available	Fully Fit	idle	FCH1824V2FL	VPS	
Cluster as Seen by Node										,	
Interfaces											
Storage		Standby Controllers									
MTP Details	1	Serial Number		IP		Mode		1	State		
Equipment Fans		FCH2226VCHY		10.0.0.5		Standby	Apic		Approved		
> Power Supply Units											
Equipment Sensors											
Processes											
> Containers		Line thering d Control	1.0.0								
> 📴 bdsol-aci01-apic3 (Node-3)		Serial Number	lets	IP		Mode			State		
Ouldk Start						No items have been from					
Controller Policies						Select Actions to create a new	/ item.				

After successful discovery, continuous keepalive messages are exchanged between Active and Standby APICs, and new APIC can be seen.

APIC1# show cont	roller							
Fabric Name	POD15							
Operational Size	: 3							
Cluster Size	3							
Time Difference	: 725204							
Fabric Security Mo	de : permissi	ive						
ID Pod Address	In-Band	IPv4 In-l	Band IPv6 (OOB IPv4	OOB IPv6	Version	Flags Serial Number	Health
1* 1 15.0.0.1	0.0.0.0	fc00::1	10.48.22.1	22 fe80:	::8a1d:fcff:fe99:ec16	3.1(1i)	crva- FCH1843V022	fully-fit
2 1 15.0.0.2	0.0.0.0	fc00::1	10.48.22.1	23 fe80:	:d66d:50ff:fecf:5d3c	3.1(1i)	crva- FCH1846V2XU	fully-fit
3 1 15.0.0.3	0.0.0.0	fc00::1	10.48.22.1	24 fe80:	:8a1d:fcff:fe99:ef16	3.1(1i)	crva- FCH1843V0DK	fully-fit
4~ 15.0.0.4							FCH2123V17P	

Flags - c:Commissioned | r:Registered | v:Valid Certificate | a:Approved | f/s:Failover fail/success (*)Current (~)Standby

APIC2# acidiag avread

Local appliance ID=2 ADDRESS=15.0.0.2 TEP ADDRESS=15.0.0.0/16 CHASSIS_ID=3a248ab6-f54a-11e7-8e54-afbc07c905f6

Cluster of 3 lm(1):2(2018-01-09T14:47:58:70++00:00) appliances (out of targeted 3 lm(1):2(2018-01-09T14:49:26.223+00:00)) with FABRIC_DOMAIN name=POD15 set to version=apic-3.1(1i)

Cluster of 3 im (1): 2(2018-01-09114:47:58./04+00:00) appliances (out of targeted 3 im (1): 2(2018-01-09114:49:26.223+00:00)) with FABRIC_DOMAIN name=POD15 set to version=apic-3.1(1) Im(t): 2(2018-01-09114:48:06.897+00:00); discoveryMode=PERMISSIVE Im(t):0(1970-01-01T00:00:00.003+00:00) appliance id=1 address=15.0.0.1 Im(t):2(2018-01-09T14:35:38.982+00:00) tep address=15.0.0.7/16 Im(t):1(2018-01-03T07:34:33.587+00:00) oob address=10.48.22.122/24 Im(t):2(2018-01-09T14:57:56.857+00:00) version=3.1(1i) Im(t):1(2018-01-09T14:57:55.508+00:00) chassisId=6e1d8cec-f058-11e7-b798-953038fb2c3c Im(t):1(2018-01-09T14:57:55.508+00:00) capabilities=0X7FFFFFFFF-0X2020--0X3 Im(t):1(2018-01-09T14:48:05.476+00:00) rK=(stable,present,0X206173722D687373) Im(t):2(2018-01-09T14:57:56.857+00:00) aK=(stable,present,0X206173722D687373) lm(t):2(2018-01-09T14:57:56.857+00:00) cntrlSbst=(APPROVED, FCH1843V022) lm(t):1(2018-01-03T11:43:44.155+00:00) (targetMbSn: lm(t):0(zeroTime), failoverStatus=0 lm(t):0(zeroTime)) podId=1 lm(t):1(2018-01-05T14:31:24.921+00:00) commissioned=YES lm(t):2(2018-01-09T14:35:38.804+00:00) registered=YES lm(t):2(2018-01-09T14:35:38.804+00:00) standby=N0 lm(t):3(2018-01-09T14:35:38.804+00:00) active=YES(2018-01-09T14:48:01.004+00:00) health=(applnc:255 lm(t):1(2018-01-09T14:48:54.48) +00:00) svc's)

appliance id=2 address=15.0.0.2 lm(t):2(2018-01-09T14:35:30.447+00:00) tep address=15.0.0.0/16 lm(t):2(2018-01-09T14:35:30.447+00:00) oob address=10.48.22.123/24 lm(t):2(2018-01-09T14:35:35.348+00:00) version=3.1(1i) lm(t):2(2018-01-09T14:57:55.423+00:00) chassisld=3a248ab6-f54a-11e7-8e54-afbc07c905f6 lm(t):2(2018-01-09T14:57:55.423+00:00) capabilities=0X7FFFFFFF-0X2020--0X7 lm(t):2(2018-01-09T14:53:05.175+00:00) rK=(stable,present,0X206173722D687373) lm(t):2(2018-01-09T14:35:35.351+00:00) lm(t): 0(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:35:35-351+00:00) cntrlSbst=(APPROVED, FCH1846V2XU) lm(t): 2(2018-01-09T14:57:35-423+00:00) cntrlSbst=lm(t): 0(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(2018-01-09T14:42:04.461+00:00)) polld=1 lm(t): 2(2018-01-09T14:35:30.447+00:00) commissioned=YES lm(t): 2(zeroTime), failoverStatus=0 lm(t): 1(zeroTime), failoverStatus=0 lm(t): 2(zeroTime), failoverStatus=0lm(t):2(2018-01-09T14:35:30.447+00:00) standby=N0 lm(t):2(2018-01-09T14:35:30.447+00:00) active=YES(2018-01-09T14:35:30.447+00:00) health=(applnc:255 lm(t):2(2018-01-09T14:48:54.39) +00:00) svc's)

appliance id=3 address=15.0.0.3 lm(t):2(2018-01-09T14:35:38.982+00:00) tep address=15.0.0.0/16 lm(t):3(2018-01-05T14:45:24.749+00:00) oob address=10.48.22.124/24 lm(t):2(2018-01-09T14:57:56.858+00:00) version=3.1(1i) lm(t):3(2018-01-09T14:57:55.461+00:00) chassisId=c4c33538-f058-11e7-8775-219f757b8829 lm(t):3(2018-01-09T14:57:55.461+00:00) capabilities=0X7FFFFFFF-0X2020--0X5 lm(t):3(2018-01-09T14:45:55.461+00:00) receptodilities=0X7FFFFFFF-0X2020--0X5 lm(t):3(2018-01-09T14:45:56.858+00:00) receptodilities=0X7FFFFFFF-0X2020--0X5 lm(t):3(2018-01-09T14:45:56.858+00:00) receptodilities=0X7FFFFFFF-0X2020--0X5 lm(t):3(2018-01-09T14:45:56.858+00:00) receptodilities=0X7FFFFFFF-0X2020--0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFF-0X2020--0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:57:56.858+00:00) receptodilities=0X7FFFFFFFF-0X2020-0X5 lm(t):2(2018-01-09T14:45:24.749+00:00) commissioned=YES lm(t):2(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X200-0X5 lm(t):2(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X5 lm(t):2(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X5 lm(t):2(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X5 lm(t):2(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X5 lm(t):2(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X5 lm(t):3(2018-01-09T14:45:38.804+00:00) receptodilities=0X7F5-0X5 lm(t):3(2018-01-09T14:45:34.875 lm(t):3(2018-01-09T14:45:54.875 lm(t):3(2018-01-09T14:45:54.875 lm(t):3(2018-01-09T14:45:54.875 lm(t):3(2018-01-09T14:45:54.875 lm(t):3(2018-01-09T14:45:54.875 lm(t):3(2018-01-09T14:45 +00:00) svc's)

*******Additional elements outside of cluster*******

appliance id=4 address=15.0.0.4 lm(t):101(2018-01-09T14:57:54.426+00:00) tep address=15.0.0.0/16 lm(t):21(2018-01-09T14:57:47.378+00:00) oob address=10.48.31.27/24 lm(t):2(2018-01-09T14:57:55.201+00:00) version=3.1(1i) lm(t):21(2018-01-09T14:57:55.606+00:00) chassisld=5846ced4-f54d-11e7-a3dd-5f76b808dca3 lm(t):21(2018-01-09T14:57:55.606+00:00) capabilities=0X7FFFFFFF-0X2020--0X100000 lm(t):21(2018-01-09T14:57:55.606+00:00) rK=(stable,absent,0) lm(t):0(zeroTime) aK=(stable,absent,0) lm(t):0(zeroTime) cntrlSbst=(APPROVED, FCH2123V17P) lm(t):3(2018-01-09T14:57:54.473+00:00) (targetMbSn= lm(t):0(zeroTime), failoverStatus=0 lm(t):0(zeroTime)) podId=1 lm(t):101(2018-01-09T14:57:54.426+00:00) commissioned=YES lm(t):3(2018-01-09T14:57:54.469+00:00) registered=YES lm(t):3(2018-01-09T14:57:54.469+00:00) standby=YES lm(t):101(2018-01-09T14:57:54.426+00:00) active=YES oob gw Commissioned = 153 Int(1):3(210-01-09T14:57:55.201+00:00) registered = 153 int(1):3(2018-01-09T14:57:55.201+00:00) standards = 103 int(1):3(20 +00:00)[35]:1 lm(t):21(2018-01-09T14:57:51.483+00:00))

clusterTime=<diff=739781 common=2018-01-09T14:58:14.989+00:00 local=2018-01-09T14:45:55.208+00:00 pF=<displForm=0 offsSt=0 offsVlu=0 lm(t):2(2018-01-09T14:49:26.492+00:00)>>

You can replace a specific unit from any other operational unit in the cluster.

									Ö <u>+</u>	***
Properties										
			Fabric Name: P	OD15						
			Target Size: 3							
			Current Size: 3							- 11
Difference	e Between Local	Time and Unified C	uster Time (ms): 7	25292						- 11
ACI Fabr	ic Internode Secu	ure Authentication (Communications:	Permissive	\sim					
Active Contr	ollers									
ID	Name	IP	Admin State	Operational State	Health State	🔺 Failo	ver Status	Serial Number	SSL Certificate	e
1	APIC1	15.0.0.1	In Service	Available	Fully Fit	idle		FCH1843V022	yes	
2	APIC2	15.0.0.2	In Service	Available	Fully Fit	idle		FCH1846V2	yes	
3	APIC3	15.0.0.3	In Service	Available	Fully Fit	idle	Commission	H1843V0	yes	
							Decommission			
Standby Cor	ntrollers						Replace			
Serial Numbe	r	IP			Mode		Reset			
FCH2123V17	P	15.0	.0.4		Standby Apic		Save as			
-							Post			
							Share			
							Open In Object Store Brow	Reset	Su	bmit

82

In the case of multiple Standby APICs, you can choose the Standby APIC that you want based on the Serial Number, an enhancement request with the ID <u>CSCvh49791</u> has been filed to show the Standby APIC ID as well as the serial number when you follow the replacement procedure.

In case you have multiple Standby Units, you need to know the serial number of the unit he is going to use for replacement, which is important especially if APICs are in different PODs / Sites, and in some cases, the location of the unit is important.



As a part of the replacement operation, there is an option to update the Out of Band (OOB) policy with the Standby APIC OOB IP Address and details, which can be beneficial in case the Standby unit is located in a different pod, where original POD IP address is not routable in the second POD.

Replace



Replace the controller with a backup

Backup Controller:	FCH2123V17P	~ d
Retain OOB IP address for Standby (new active):	Standby(new active) may not retain its OOB address if m active APICs are down/unavailable. If any condition is true OOB IP update would fail and s update the OOB policy after the replace operation.	ore than 1 user should
	update the COB policy after the replace operation.	

Once the configuration is submitted, the replacement process can start to work on reprovisioning the standby unit.

Cancel Submit

Cluster as	s Seen by	/ Node								
								Ŏ	+	**.▼
Properties										
			Fabric Name: P	OD15						
			Target Size: 3							
			Current Size: 3							
Difference	Between Local	Time and Unified Cl	uster Time (ms): 7	25340						
ACI Fabr	ic Internode Sec	sure Authentication C	Communications: F	Permissive	\sim					
Active Contr	ollers									
ID	Name	IP	Admin State	Operational State	Health State	 Failover Status 	Serial Number	SSL Cert	ificate	
1	APIC1	15.0.0.1	In Service	Available	Fully Fit	idle	FCH1843V022	yes		
2	APIC2	15.0.0.2	In Service	Unavailable	Unknown	working-on-reprovisioning-standby	FCH1846V2	yes		
3	APIC3	15.0.0.3	In Service	Available	Fully Fit	idle	FCH1843V0	yes		
Standby Cor	trollers									
Serial Number	r	IP			Mode	State				
FCH2123V17	Р	15.0	0.0.4		Standby Apic	Approv	ed			
							Reset		Sub	omit

Cluster as	s Seen by	/ Node									
									Ō	+	***
Properties											
			Fabric Name: P	OD15							
			Target Size: 3								
			Current Size: 3								
Difference	e Between Local	Time and Unified C	luster Time (ms): 7	25356							
ACI Fab	ric Internode Sec	ure Authentication (Communications: F	Permissive	\sim						
Active Contr	rollers										
ID	Name	IP	Admin State	Operational State	Health State	 Failover Status 		Serial Number	SSL Cert	ificate	
1	APIC1	15.0.0.1	In Service	Available	Fully Fit	idle		FCH1843V022	yes		
2	APIC2	0.0.0.0	In Service	Unregistered	Not Created	waiting-for-new-apic			yes		
3	APIC3	15.0.0.3	In Service	Available	Fully Fit	idle		FCH1843V0	yes		
Standby Col	ntrollers										
Serial Numbe	er	IP			Mode		State				
				No items ha Select Actions to	ave been found. o create a new item.						
								Reset		Sub	omit

Note: Time required for replacement is variable as it depends on the amount of configuration/data that needs to be synchronized, in an empty configuration lab environment, it can take around 10 minutes for the Standby unit to fully replicate and get to a Fully Fit state.

Cluster as See	en by Node								
								ð <u>+</u>	***
Properties									
		Fabric Name: I	POD15						
		Target Size: 3	3						
		Current Size: 3	3						
Difference Betwee	en Local Time and Unif	ed Cluster Time (ms):	725790						
ACI Fabric Intern	ode Secure Authentica	tion Communications:	Permissive	\sim					
Active Controllers									
ID	Name	IP	Admin State	Operational State	Health State	 Failover Status 	Serial Number	SSL Certificate	
1	APIC1	15.0.0.1	In Service	Available	Fully Fit	idle	FCH1843V022	yes	
3	APIC3	15.0.0.3	In Service	Available	Fully Fit	idle	FCH1843V0DK	yes	
2	STDBYAPIC21	15.0.0.2	In Service	Available	Fully Fit	completed	FCH2123V17P	yes	

Additional Procedures

In case replaced APIC was operational, it can be placed in Shut Down state, to re-enable it, it needs to be done through the Cisco Integrated Management Controller (CIMC).



Old APIC cannot have access to the Fabric.

APIC2# aci ID	idiag fnvread Pod ID	Name	Serial Number	IP Address	Role	State LastUpdMsgId
101	1	LEAF101	SAL19069C0L	15.0.88.64/32	leaf	inactive 0x10000000040c
102	1	LEAF102	SAL19079J4L	15.0.240.65/32	leaf	inactive 0x10000000040d
103	1	LEAF3	FD020392L8S	15.0.240.66/32	leaf	inactive 0x10000000040e
104	1	LEAF4	FDO20400MZ5	15.0.56.64/32	leaf	inactive 0x10000000040f
201	1	SPINE1	SAL1925H0L8	15.0.88.65/32	spine	inactive 0x100000000410
202	1	SPINE2	SAL1925H0M4	15.0.240.64/32	spine	inactive 0x100000000411
Total 6 nc	odes					



Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.