LAN Driver Installation Guide (Broadcom v17.2) Expres5800/A2040b, A2020b, A2010b, A1040b

> August 2016 855-911221-105-A

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# 1. Preface

Thank you very much for purchasing our product. This installation guide explains how to set up the LAN Drivers.

#### 1.1. The target server

Refer to the URL below and check the target server.

http://www.58support.nec.co.jp/global/download/index.html

-> Click model name(product name).

-> Click "LAN Driver Module(V17.2)(Windows Server 2012 R2/Windows Server 2012)" in "Other update".

## **1.2. Target software**

Abbreviated designation	Software Production Name
Windows Server 2012	Microsoft® Windows Server® 2012 Standard Microsoft® Windows Server® 2012 Datacenter
Windows Server 2012 R2	Microsoft® Windows Server® 2012 R2 Standard Microsoft® Windows Server® 2012 R2 Datacenter Microsoft® Windows Server® 2012 R2 Foundation

\*1 Above information is based on 2016/07

Refer the Server Configuration Guide for the latest information.

The latest drivers are published on our NEC Express5800 Support Website.

\*2 Refer to the Server Configuration Guide for correspondence Option LAN Board.

#### **1.3. Target Driver Version**

The target driver version before and after update are listed in the following. If the driver version in use is not listed in the following, this update is not necessary.

Related to the confirmation method of installed version, please refer to [3.2 Confirmation of LAN driver version].

Target software	Target driver version (b57nd60a.sys)	After update version (b57nd60a.sys)
Windows Server 2012	15.6.0.10	17.2.0.2
Windows Server 2012 R2	16.2.0.4	17.2.0.2

## **1.4. Registration Trademark**

Microsoft, Windows, Windows Server, Hyper-V are registered trademark or trademarks of the Microsoft in the U.S. and other countries. Broadcom, the pulse logo, Connecting everything, the Connecting everything logo, NetXtreme, Ethernet@Wirespeed, LiveLink<sup>™</sup>, and Smart Load Balancing<sup>™</sup> are among the trademarks of Broadcom Corporation and/or its affiliates in the United States, certain other countries, and/or the EXPRESSCLUSTER is registered trademark of the NEC corporation. In addition, TM and an R mark are not specified in the test.

# 2. Workflow LAN driver update process



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# 3. Preparation



#### 3.1. Workflow preparation process



### 3.2. Confirmation of LAN driver version

Check the driver version by the procedure below. When the version is equal or newer than the following version, installation is not necessary.

1. Open the **Device Manager** icon on the Control Panel window.



2. Double-click the Broadcom NetXtreme Gigabit Ethernet icon on the Device Manager.

222	Device Manager	
<u>File Action View H</u> elp		
I I I I I I I I I I I I I I I I I I I		
🔺 📇 WIN-SJ273VILEP1		^
Computer		
👂 🧫 Disk drives		
Display adapters		
DVD/CD-ROM drives		
Im Human Interface Devices		
IDE ATA/ATAPI controllers		
Keyboards		
Mice and other pointing devices		
Monitors		
⊿ Metwork adapters		
Proadcom NetXtreme Gigabit Ethernet		-
Broadcom NetAtreme Gigabit Ethernet #2		-
Proadcom NetVtreme Gigabit Ethernet #4		
Proadcom NetVtreme Gigabit Ethernet #5		
Broadcom NetXtreme Gigabit Ethernet #5		
Broadcom NetXtreme Gigabit Ethernet #7		
Broadcom NetXtreme Gigabit Ethernet #8		
Broadcom NetXtreme Gigabit Ethernet #9		
Ports (COM & LPT)		
Print queues		
Processors		
Storage controllers		
System devices		
N 🖶 Universal Serial Rus controllers		~

3. Click the Driver Details on the Driver tab.

Events	Resources	Power	Management
General	Advanced	Driver	Details
Broadco	m NetXtreme Gigabit i	Ethernet	
Driver Pr	rovider: Broadcom		
Driver D	ate: 12/19/20	13	
Driver V	ersion: 16.2.0.4.		
Digital S	igner: Microsoft Publisher	Windows Hardware	e Compatibility
Driver Details	To view deta	is about the driver	fles.
Update Driver.	To update th	e driver software fo	or this device.
Roll Back Drive	ar If the device back to the p	fails after updating reviously installed	the driver, rol driver.
Disable	Disables the	selected device.	
Uninstal	To uninstall t	he driver (Advance	d).

4. Confirm the version in **Driver** tab, and also the **File version** of the corresponding driver(b57nd60a.sys) in **Driver File Details**.

If the version in use is not the target, this update is not necessary.

NetXtreme Gigabit Ethernet /stem32\DRIVERS\b57nd60a.sys
rstem32\DRIVERS\b57nd60a.sys
roadcom Corporation
6.2.0.4
opyright 2000-2013, Broadcom Corporation.

Target OS	Target driver version before update (b57nd60a.sys)	Driver version after update (b57nd60a.sys)	
Windows Server 2012	15.6.0.10	17.2.0.2	
Windows Server 2012 R2	16.2.0.4	17.2.0.2	

## 3.3. Preparation of module

#### 3.3.1.Prepare the update module

- Create a temp folder directly under the system drive. (e.g., C:\temp\)
- Unzip GVO-010516-G01\_xxxxxxxxxxxxxxxzip, copy the BCOM172 folder in the temp folder. (e.g., C:\temp\BCOM172\)

#### 3.3.2. Prepare the recovery module

For recovering to the original module, please use the DVD of EXPRESSBUILDER, support kit or the released module in Website.

Regarding the source for obtaining the recovery module, please refer to [8.2 List of stored path of recovery driver] to prepare it in advance.

Besides, if the recovery module is downloaded from Website, please extract it to an arbitrary folder. \* If you want to use the DVD of EXPRESSBUILDER, DVD device is necessary for reading the DVD.

**3.4. Save the setting of LAN driver** For updating or recovering the LAN driver, the setting of LAN driver returns to default. Please obtain the setting by the following procedures before updating or recovering the LAN driver.

1. Open Windows PowerShell as administrator and run the following command to output the setting of LAN driver to a text file.

Get-NetAdapterAdvancedProperty | sort-object -property DisplayName,Name | select-object Name, DisplayName, DisplayValue > C:\temp\adapter\_property.txt



2. Open the saved **adapter\_property.txt** file in 1. and compare it with the default values of current driver version in [8.1 List of LAN driver setting default value]. For each network adapter, if any parameter or value is not default, note them down.

[adapter_property.txt]			
Name	DisplayName	DisplayValue	
LAN1	802.3az EEE (Copper Only)	Disable	
LAN2	802.3az EEE (Copper Only)	Disable	
LAN3	802.3az EEE (Copper Only)	Disable	
LAN4	802.3az EEE (Copper Only)	Disable	
LAN1	ARP Offload	Enabled	
LAN2	ARP Offload	Enabled	
LAN3	ARP Offload	Enabled	
LAN4	ARP Offload	Enabled	
LAN1	EEE Control Policies (Copper Only)	Optimal Power and Performance	
LAN2	EEE Control Policies (Copper Only)	Optimal Power and Performance	
LAN3	EEE Control Policies (Copper Only)	Optimal Power and Performance	
LAN4	EEE Control Policies (Copper Only)	Optimal Pov If the value of "DisplayValue"	
LAN1	Ethernet@WireSpeed (Copper Only)	Enable is changed from default, note	
LAN2	Ethernet@WireSpeed (Copper Only)	down the Name, DisplayName	
LAN3	Ethernet@WireSpeed (Copper Only)	and Display value.	
LAN4	Ethernet@WireSpeed (Copper Only)		
LAN1	Flow Control	Disabled	
LAN2	Flow Control	Auto Negotiation	
LAN3	Flow Control	Auto Negotiation	
LAN4	Flow Control	Auto Negotiation	

3. Run the following command to output the network adapter information to a text file.

Get-NetAdapter > C:\temp\adpter\_info.txt

4. Open the saved **adapter\_info.txt** file in 3. and note down the network adapter name which **Status** is **Not Present**. **Not Present** means that it is disabled now. Since it will become enabled after updating or recovering the LAN driver, please refer to [5.2 Reset LAN driver] for disabling the corresponding network adapter.

[adapter_info.txt]					
Name	InterfaceDescription	ifIndex	Status	MacAddress	LinkSpeed
LOM3	Broadcom NetXtreme Gigabit Ethernet #5	18	Up	44-8A-5B-6C-C2-FF	1 Gbps
LOM2	Broadcom NetXtreme Gigabit Ethernet #4	17	Up	44-8A-5B-6C-C2-FE	1 Gbps
LOM1	Broadcom NetXtreme Gigabit Ethernet #7	20	Up	44-8A-5B-6C-C2-FD	1 Gbps
NIC3_4	Broadcom NetXtreme Gigabit Ethernet #11	30	Up	58-C2-32-82-8B-F3	1 Gbps
NIC3_3	Broadcom NetXtreme Gigabit Ethernet #12	31	Up	58-C2-32-82-8B-F2	1 Gbps
NIC3_2	Broadcom NetXtreme Gigabit Ethernet #10	29	Not Present	58-C2-32-82-8B-F1	0 bps
NIC3_1	Broadcom NetXtreme Gigabit Ethernet #15	34	Not Present	58-C2-32-82-8B-F0	0 bps

## 3.5. Stop the WSFC node service

- 1. Open the Failover Cluster Manager from Server Manager.
- 2. Move the all resource of target node to another node.
- 3. Select the **Nodes** displayed on the left of **Failover Cluster Manager**.

44.100000000000000000000000000000000000		Failover Cluster Manager	
File Action View Help			
File Action View Help     Folder     Folderi			
Failover Cluster Manager	Nodes		Actions
Roles	Name	Status	Nodes 🔺
Nodes	WIN-HFO0CFUG1K3	🕑 Up	🚰 Add Node
Storage	WIN-OH6VOSNBA1C	💿 Up	View 🕨
P Rodes P Storage P Networks Networks B Cluster Events			Q Refresh
a Cluster Events			R Help
			WIN-HFO0CFUG1K3
			🖡 Pause 🕨
WIN-F ■ Pau ■ Res ■ She ■ Ma ■	🗒 Resume 🕨		
		Remote Desktop	
			Show Critical Events
			er Manager  Actions  Nodes  Add Node View  Careet  Pause  Resume  Resume  Show Critical Events  More Actions  Refresh  Help  Help  Help
File Action View Help  File Action Action Action  File Action  File Action Action  File Action  Fi			Q Refresh
			👔 Help
	WIN-HFO0CFUG1K3		
	Version:	Status:	
	6.2.9200	Up	
	Service Pack:		
	No Service Pack Installed	Failover Cluster Manager         Image: Comparison of the second	
	Vodes       Nodes         Nome       Nodes       Ad Nodes         WIN-HFOOCFUGIK3       Satus       Ad Nodes         WIN-HFOOCFUGIK3       Output       Refresh       Help         WIN-HFOOCFUGIK3       Output       Remote Desitop       More Actions       Output         WIN-HFOOCFUGIK3       Satus       Output       Remote Desitop       Help         Wine Course Pack:       No Service Pack       Satus       Output       Help         Service Pack:       No Service Pack       Satus       Output       More Actions       Output       Output <th< td=""></th<>		

4. Right-click the target **node** for driver update from the node list.

	· -··-·	
File Action View Help		
<ul> <li>↓ Fallover Cluster Manager</li> <li>↓ ₩ Nodes</li> <li>↓ ₩ Cluster Events</li> </ul>	Nodes  Name Status  VINCONEX  Resume Remote Desktop Show Critical Events Statu Cluster Service Refresh Help VIN-HFOOCFUG 1K3  Version: Status: 6.2 3200 Up Service Pack: No Service Pack installed	Actions         Nodes         Image: Second
<		

5. Select the Stop Cluster Service from More Actions.

6. Open the Services from Server Manager.

7. Right-click the Cluster Service.

#### 8. Select the **Properties**.

		Servi	ces				-	X
Action View	Help							
ile Action View He ile Action View Che ile ile construction of the second Services (Local) Che Bes Den Erricht Che Store Che Sto	🖻 📑 📲 📷 🕨 🔳 II 🕪							
	Services (Local)							
	Services (Local)							
e Action View Help The Construction of the service (Local) Services (Local) Cluster Service (Local) Cluster Service (Local) Cluster Service (Local) Cluster to keep server-based applications highly available, firthis service is disabled, any services that explicitly depend on it will fail to star explicitly depend on it will fail to star Extended (Standard/	Cluster Service	Name	Description	Status	Startup Type	Log On As		
	1	Application Experience	Processes a	Running	Manual (Trig	Local Syste		
	Stop the service	Application Identity	Determines		Manual (Trig	Local Service		
	Application Information	Facilitates t	Running	Manual	Local Syste			
	Application Layer Gateway	Provides su	-	Manual	Local Service			
	Application Management	Processes in		Manual	Local Syste			
	Enables servers to work together as a	Background Intelligent Tran	Transfers fil		Manual	Local Syste		
	cluster to keep server-based	Background Tasks Infrastru	Windows in	Running	Automatic	Local Syste		
	applications highly available,	Base Filtering Engine	The Base Fil	Running	Automatic	Local Service		
	Certificate Propagation	Copies user		Manual	Local Syste			
	Cluster Service	Enables serv	Running	Automatic		_		
	CNG Key Isolation	The CNG ke	~	Manual (Trig	Start			
	explicitly depend on it will fail to start.	COM+ Event System	Supports Sy	Running	Automatic	Stop		
		COM+ System Application	Manages th	-	Manual	Pause		
		Computer Browser	Maintains a		Disabled	Resume		
		Credential Manager	Provides se		Manual	Restart		
	Cryptographic Services	Provides thr	Running	Automatic	Nestore	_		
	COM Server Process Laun	The DCOM	Running	Automatic	All Tasks	•		
		Device Association Service	Enables pair		Manual (Trig	Refresh		
	Device Install Service	Enables a c		Manual (Trig	Prove the second			
		Device Setup Manager	Enables the	Running	Manual (Trig	Properties		
		G DHCP Client	Registers an	Running	Automatic	Help		
		🐘 Diagnostic Policy Service	The Diagno	Running	Automatic (D	Local Service		
		🕼 Diagnostic Service Host	The Diagno		Manual	Local Service		
	Diagnostic System Host	The Diagno		Manual	Local Syste			
	Distributed Link Tracking Cl	Maintains li	Running	Automatic	Local Syste			
	Q Distributed Transaction Co	Coordinates	Running	Automatic (D	Network S			
	ONS Client	The DNS Cli	Running	Automatic (T	Network S			
	W Help Bervices (Local) Custer Service Services (Local) Custer Service Restart the service Description: Enables servers to work together as a cluster to kervice server-based applications highly available, regardless of individual component failures. If this service is stopped, clustering will be unavailable. If this service is disabled, any services that explicitly depend on it will fail to start plicitly depend on it will fail to start Extended / Standard /	Encrypting File System (EFS)	Provides th	-	Manual (Trig	Local Syste		
		Extensible Authentication P	The Extensi		Manual	Local Syste		
	Extended Standard							

#### 9. Change the Startup type on General Tab to Disabled. Select the OK.

Cluste	r Service Properties (Local Computer)							
General Log On	Recovery Dependencies							
Service name:	ClusSvc							
Display name:	Display name: Cluster Service							
Description: Enables servers to work together as a cluster to keep server-based applications highly available,								
Path to executab C:\Windows\Clus	le: ster\clussvc.exe -s							
Startup type:	Startup type: Disabled 🗸							
Help me configure service startup options.								
Service status: Running								
Start	Stop Pause Resume							
You can specify t from here.	the start parameters that apply when you start the service							
Start parameters:								
	Cancel Apply							

#### 3.6. Stop the EXPRESSCLUSTER service

Refer the following website for more information.

http://www.nec.com/en/global/prod/expresscluster/en/support/manuals.html

- -> Reference Guide
  - -> Chapter 10 The system maintenance information
    - -> Replacing the network card
      - \* Perform the procedures prior to the replace of network card. Shut down the system and then start up it again. After that, Go to [4 LAN driver update].

# 4. LAN driver update

Refer the notice before driver update.

Important Sign in the system from local console by administrator account for executing the operation below.

#### 4.1. LAN driver installation

1. Run a command prompt as administrator. Enter the following command at the command prompt.

cd C:\temp\BCOM172\LAN\

(For file info, refer the [3.3.1 Prepare the update module])

- 2. Enter the following, and then press Enter key.
  - Windows Server 2012 INSTALL\_WS2012.bat
  - Windows Server 2012 R2 INSTALL\_WS2012R2.bat
- 3. When the following message is displayed, restart the system.

Installation Completed!

4. Check that the driver version is 17.2.0.2. By following [3.2 Confirmation of LAN driver version].

# 5. After LAN driver install



•Sign in the system from local console by administrator account for executing the operation below.

•If using Hyper-V and not using WSFC or EXPRESSCLUSTER, shut down all the Guest OS if necessary and reset the system to auto boot up after this chapter.

#### 5.1. Workflow after LAN driver install



#### 5.2. Reset LAN driver

Refer the following steps for resetting the parameter of LAN driver.

1. Open Control Panel and click Network and Sharing Center.



2. Select Change adapter settings for displaying Network and Sharing Center screen.



3. According to the noted network adapter name in 4. of [3.4 Save the setting of LAN driver], right-click on the target adapter and select **Disable** to disable the adapter.



4. Right-click on each physical network adapter (Device name: Broadcom NetXtreme Gigabit Ethernet) and click **Properties**.

2		Network Cor	nnections		_	
	1 😰 « Network and Intern	et ► Network Connections		V 🖒 Search Ne	twork Connec	ctions P
Organize 🔻	Disable this network device	Diagnose this connection	Rename this co	onnection »		• 🔲 🔞
Name	*	Status		Device Name		Connectivity
LAN1		Unidentified n	etwork	Broadcom NetXtreme	Gigabit Et	No Internet ac
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Disable Status Diagnose Bridge Connections Create Shortcut Delete Rename Properties	Unidentified n Network cable Network cable Network cable Network cable Network cable	etwork unplugged unplugged unplugged unplugged unplugged unplugged	Broadcom NetXtreme Broadcom NetXtreme Broadcom NetXtreme Broadcom NetXtreme Broadcom NetXtreme Broadcom NetXtreme Broadcom NetXtreme	Gigabit Et Gigabit Et Gigabit Et Gigabit Et Gigabit Et Gigabit Et Gigabit Et	No Internet ac
< 9 items 1	III item selected					

5. Click on **Configure** and then select **Advanced** tab. Change the values of corresponding <u>Property based on the noted values in 2. of [3.4 Save the setting of LAN driver].</u>

The fol the pro on the	owing proper perty you war ight.	ties are a it to char	vailable for the	orthis net e left, and	work adapter. ( I then select its	Click value
Propert	y: az EEE (Copp	er Only)	^		alue: Disable	×
Ethem Flow C Interru Jumbo Large Large Maxim Netwo NS Off Priority Receir	Control Control pt Moderation Mtu Send Offload Send Offload um Number o rk Address fload & VLAN ve Buffers	V2 (IPv2 V2 (IPv2 V2 (IPv6 f RSS Q	er Onl = ) jeues			

- \* Please refer to **Handoff of setting value** in [8.1 List of LAN driver setting default value] for confirming which property is needed to reset.
- 6. Restart the system.

#### 5.3. Start the WSFC node service

Refer the following steps for starting the service of node which has been stopped in [3.5 Stop the WSFC node service].

- 1. Open the **Services** from Server Manager in the node which LAN driver updated.
- 2. Right-click the **Cluster Service** in service screen and select the **Properties**.

File Action View	Help						
(+ +) 🖬 🗐 🖉	à 🗟 🚺 🖬 🕨 🖬 🕪						
🔅 Services (Local)	Services (Local)	_					
	Cluster Service	Name 🔺	Description	Status	Startup Type	Log On As	^
		Application Experience	Processes a		Manual (Trig	Local Syste	
	Start the service	Application Identity	Determines		Manual (Trig	Local Service	
		Application Information	Facilitates t	Running	Manual	Local Syste	=
	Description:	Application Layer Gateway	Provides su		Manual	Local Service	_
	Enables servers to work together as a	Application Management	Processes in		Manual	Local Syste	
	cluster to keep server-based	Background Intelligent Tran	Transfers fil		Manual	Local Syste	
	regardless of individual component	Background Tasks Infrastru	Windows in	Running	Automatic	Local Syste	
	failures. If this service is stopped,	Base Filtering Engine	The Base Fil	Running	Automatic	Local Service	
	clustering will be unavailable. If this	Certificate Propagation	Copies user	_	Manual	Local Syste	
	explicitly depend on it will fail to start.	Cluster Service	Enables serv		Start	/ste	
	- · · · · · · · · · · · · · · · · · ·	CNG Key Isolation	The CNG ke		Stop	/ste	
		COM+ Event System	Supports Sy	Running	Pause	ervice	
		COM+ System Application	Manages th		Recurse	/ste	
		Computer Browser	Maintains a		Resume	/ste	
		Credential Manager	Provides se		Kestart	/ste	
		Cryptographic Services	Provides thr	Running	All Tasks	▶ KS	
		DCOM Server Process Laun	The DCOM	Running	Refresh	/ste	
		Device Association Service	Enables pair			/ste	
		Device Install Service	Enables a c		Properties	/ste	
		Device Setup Manager	Enables the	Running	Help	/ste	
		DHCP Client	Registers an	Running =	A 1 1 (D	ervice	
		Diagnostic Policy Service	The Diagno	Kunning	Automatic (D	Local Service	
		Diagnostic Service Host	The Diagno		Manual	Local Service	
		Diagnostic System Host	The Diagno	n	Manual	Local Syste	
		Distributed Link Tracking Cl	iviaintains II	Running	Automatic Automatic (D	Local Syste	
		Distributed (ransaction Co	The DNC Cli	Running	Automatic (D	Network S	
		Client Client	Descrides the	Kunning	Automatic (1	INELWORK S	
		Course of the Authoritation D	Provides th		Manual (Trig	Local Syste	~
	Extended Standard	Sector P	The extensi		manual	Local Syste	
	(citchaca (standard)						

3. Change the **Startup type** to **Automatic** on **General** Tab then select **OK**.

Cluster	Service Properties (Local Computer)						
General Log On	Recovery Dependencies						
Service name:	ClusSvc						
Display name:	Cluster Service						
Description: Enables servers to work together as a cluster to keep server-based applications highly available,							
Path to executable: C:\Windows\Cluster\clussvc.exe -s							
Startup type:	Startup type: Automatic 🗸						
Help me configure service startup options,							
Service status: Stopped							
Start Stop Pause Resume							
You can specify the start parameters that apply when you start the service from here.							
Start parameters:							
	OK Cancel Apply						

- 4. Right-click the **Cluster Service** at service screen and select the **Start**.
- 5. Open the Failover Cluster Manager from Server Manager.
- 6. Select the **node** from the left side of **Failover Cluster Manager**.

7. Right-click the target **node** for driver update from the node list. Select the **Start Cluster Service** from **More Actions**.

磁	Failover	r Cluster Manager		_ 🗆 X	
File Action View Help					
🗢 🔿 🙍 🖬 📓 🖬					
🍓 Failover Cluster Manager	Nodes			Actions	_
MSFC.CLASSICdomain.com	Name Status			Nodes 🔺	
Nodes	VIN-HF00CFUG1K3 Own	Daura		🍄 Add Node	
Storage	WIN-OH6VOSNBA1C () Up	Resume +		View 🕨	,
Cluster Events		Remote Desktop		Q Refresh	
		Show Critical Events		👔 Help	
		More Actions	Start Cluster Service	I-HFO0CFUG1K3	
		Refresh	Stop Cluster Service	Pause 🕨	٢
		Help	Evict	Resume	,
				💀 Remote Desktop	
				Show Critical Events	.
				More Actions	۲
				C Refresh	- 1
				Help	
	WIN-HFO0CFUG1K3				
	Version: Status: 6.2.9200 Down				
	Service Packs				
	No Service Pack: No Service Pack Installed				
< III >					
This action starts the Cluster service	on this node, after which the node can participate in	the cluster and host resources.			

## 5.4. Start the EXPRESSCLUSTER service

Refer to the following URL.

#### <u>http://www.nec.com/en/global/prod/expresscluster/en/support/manuals.html</u> -> Reference Guide

- -> Chapter 10 The system maintenance information
  - -> Replacing the network card
    - \* Perform the procedures beyond replacing network card procedure. In addition, no need to reset the network configuration.

# 6. Rollback procedure of LAN driver

- Sign in the system from local console by administrator account for executing the operation below.
- If necessary, execute [3.5 Stop the WSFC node service] and [3.6 Stop the EXPRESSCLUSTER service] in advance.

Important

- If you use Hyper-V and not use WSFC or EXPRESSCLUSTER, shut down all the Guest OS and release the setting of auto boot up before the rollback of LAN driver.
- After rollback, execute [5 After LAN driver install] and reset the network setting.

#### 6.1. Old LAN driver installation

- 1. If the attached DVD of EXPRESSBUILDER is used for recovery, insert the DVD in the optical device.
- 2. Open command prompt as administrator. Move the current path to the stored path of target driver by cd command by referring to **Stored path** in [8.2 List of stored path of recovery driver].

\* The command example is written below when target device is A2040b and target OS is Windows Server 2012.

cd /d <DVD drive letter>:\002\win\winnt\ws2012\b57nd60a\bcom\ws2012\lan\bcom\drvinst\156a0401\x64

3. Run the following command and press <Enter> key to start the installation.

setup /s /v"/qn DOWNGRADE=Y"

- 4. Open Event Viewer and confirm that the following event is logged in the application log. Close the Event Viewer and command prompt and then restart the system.
  - \* If the following event is displayed, wait until it is logged.
  - \* After the installation is completed, there may be some cases that the system is restarted automatically.

In that case, also confirm that the following event is logged after the system is restarted.

Product: Broadcor	n Gigabit Integrated Controlle	r Installation o	peration completed successfully.	
Log Na <u>m</u> e:	Application			[
Source:	Msilnstaller	Logge <u>d</u> :	2/17/2016 1:25:17 PM	
<u>E</u> vent ID:	11707	Task Category:	None	
Level:	Information	Keywords:	Classic	
<u>U</u> ser:	WIN-SJ273VILEP1\Administr	Compute <u>r</u> :	WIN-SJ273VILEP1	
<u>O</u> pCode:				
More Information:	Event Log Online Help			

- 5. After the system is restarted, confirm that the version of the installed driver is the one before update by following [3.2 Confirmation of LAN driver version].
- 6. After the confirmation, please perform [5 After LAN driver install].

# 7. Notice

This section describes notice of LAN driver. Read the following notes or information before installation.

#### 7.1. About the operation by remote desktop

For all the operation described in this document, it has to be performed from the local console. Remote desktop of OS or remote operation tool is not supported.

#### 7.2. Account of operation

For all the operation described in this document, it has to be performed by logging on with an administrator account. In addition, open command prompt or Windows PowerShell as Administrator.

### 7.3. Notice of using Hyper-V

If you use Hyper-V and not use WSFC or EXPRESSCLUSTER, shut down all the Guest OS before the LAN driver installation.

## 7.4. Notice of update

The network is disconnected when updating the LAN driver. Please stop all the jobs of using network before the update.

# 8. Appendix

## 8.1. List of LAN driver setting default value

#### > List of default value (v15.6.0.10/16.2.0.4)

		Handoff of setting value			
Property	Default value	After update	After recovery		
802.3az EEE (Copper Only)	Disable	-	Disable		
ARP Offload	Enabled		-		
EEE Control Policies (Copper Only)	Optimal Power and Performance	-	-		
Ethernet@WireSpeed (Copper Only)	Enable	-	Enable		
Flow Control	Rx & Tx Enabled	-	Rx & Tx Enabled		
Interrupt Moderation	Enabled	-	-		
Jumbo Mtu	1500	-	1500		
Large Send Offload V2 (IPv4)	Enabled	-	Enabled		
Large Send Offload V2 (IPv6)	Enabled	-	Enabled		
Maximum Number of RSS Queues	RSS 1 Queue	-	RSS 1 Queue		
Network Address	None	-	-		
NS Offload	Enabled	-	-		
Priority & VLAN	Priority & VLAN Enabled	-	-		
Receive Buffers	Default	Default	Default		
Receive Side Scaling	Enabled	-	-		
Speed & Duplex (Copper Only)	Auto Negotiation	-	-		
TCP/UDP Checksum Offload (IPv4)	Rx & Tx Enabled	-	-		
TCP/UDP Checksum Offload (IPv6)	Rx & Tx Enabled	-	-		
Transmit Buffers	500	500	500		
Virtual Machine Queues	WS2012 : Disabled WS2012R2 : Enabled	Disabled	-		
VLAN ID	0	-	-		
VMQ VLAN Filtering	Disable	-	-		
Wake On Magic Packet	Enabled	-	Enabled		
Wake On Pattern Match	Enabled	-	Enabled		
WOL Speed (Copper Only)	Lowest Speed Advertised		Lowest Speed Advertised		

\* In "Handoff of setting value", "-" means the value does not change after the update or recovery. For the others, the values are set based on the above table after the update or recovery.

\* For the properties with hatching, the corresponding values are set depending on your environment. For the other properties, it is recommended to set to the default value.

\* Regarding "Ethernet@WireSpeed", there are some cases that the confirmed value in [3.4 Save the setting of LAN driver] is blank.

In that case, the value becomes "Enable".

\* For the property with "Copper Only", there are some cases that the property is not existed depending on the adapter or driver version but there is no problem on it.

\* Regarding "Network Address", if the confirmed value in [3.4 Save the setting of LAN driver] is blank, the value becomes "None".

8.2. List of stored	path of recovery	/ driver
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Target device	Target OS	Driver version	Source for obtaining driver	Stored path
NEC Express5800/A2040b NEC Express5800/A2020b	Windows Server 2012	15.6.0.10	EXPRESSBUILDER of server	\002\win\winnt\ws2012\b57nd60a\bcom\ws 2012\lan\bcom\drvinst\156a0401\x64
NEC Express5800/A1040b	Windows Server 2012 R2	16.2.0.4	http://www.58support.nec.co.jp/g lobal/download/w2012r2/Global- A2040b_A2020b_A2010b_A104 0b.html	\\winnt\ws2012r2\lan\bcom\drvinst\160204 01\x64