

## EXPRESSCLUSTER X 4.3

### Supported distributions and kernel versions

#### <Notes>

- The distribution or kernel in the following list has been verified with EXPRESSCLUSTER.
  - ✓: Supported
  - n/a: Not supported
- Any distribution or kernel not in the list has not been verified.
- EXPRESSCLUSTER X CD-ROM may not contain the latest rpm files to support the following kernel versions. Apply the latest update of EXPRESSCLUSTER to run with the latest kernel version.
- After applying driver update, additional kernels other than ones listed below are supported. Please refer to the following page for more details:

EXPRESSCLUSTER X driver update

<https://www.support.nec.co.jp/en/View.aspx?NoClear=on&id=4140100112>

- EXPRESSCLUSTER's drivers for the following distributions and kernels are compatible with the "Retpoline" patch which resolves Spectre Variant 2 vulnerability.
  - RedHat Enterprise Linux 7 Update 7: All kernels
  - RedHat Enterprise Linux 7 Update 6: All kernels
  - RedHat Enterprise Linux 7 Update 5: 3.10.0-862.14.4.el7.x86\_64 or later
  - RedHat Enterprise Linux 7 Update 4: 3.10.0-693.21.1.el7.x86\_64 or later
  - RedHat Enterprise Linux 7 Update 3: 3.10.0-514.58.1.el7.x86\_64 or later
  - RedHat Enterprise Linux 6 Update 10: All kernels
  - Asianux Server 7 SP3: All kernels
  - Asianux Server 7 SP2: 3.10.0-862.2.3.el7.x86\_64 or later
  - Asianux Server 4 SP7: 2.6.32-754.2.1.el6.x86\_64 or later

#### x86\_64

Distribution	Kernel version	Replicator Replicator DR support	clpka,clpkhb support	EXPRESSCLUSTER Version
Red Hat Enterprise Linux 8 (Update4)	4.18.0-305.el8.x86_64	✓	✓	4.3.2-1 or later
	4.18.0-305.17.1.el8_4.x86_64	✓	✓	4.3.2-1 or later
	4.18.0-305.19.1.el8_4.x86_64	✓	✓	4.3.4-1 or later
	4.18.0-305.25.1.el8_4.x86_64	✓	✓	4.3.4-1 or later
Red Hat Enterprise Linux 8 (Update2)	4.18.0-193.el8.x86_64	✓	✓	4.2.0-1 or later + driver update
	4.18.0-193.13.2.el8_2.x86_64	✓	✓	4.3.2-1 or later
	4.18.0-193.28.1.el8_2.x86_64	✓	✓	4.3.0-1 or later
Red Hat Enterprise Linux 8 (Update1)	4.18.0-147.el8.x86_64	✓	✓	4.2.2-1 or later
				4.2.0-1 or later + driver update
Red Hat Enterprise Linux 7 (Update9)	3.10.0-1160.el7.x86_64	✓	✓	4.3.0-1 or later
	3.10.0-1160.41.1.el7.x86_64	✓	✓	4.3.2-1 or later
Red Hat Enterprise Linux 7 (Update8)	3.10.0-1127.el7.x86_64	✓	✓	4.2.2-1 or later
				4.2.0-1 or later + driver update
Red Hat Enterprise Linux 7 (Update7)	3.10.0-1062.el7.x86_64	✓	✓	4.2.0-1 or later
				4.1.2-1 + driver update

Distribution	Kernel version	Replicator Replicator DR support	clpka,clpkhb support	EXPRESSCLUSTER Version
Red Hat Enterprise Linux 7 (Update6)	3.10.0-957.el7.x86_64	✓	✓	4.1.0-1 or later
	3.10.0-957.27.2.el7.x86_64	✓	✓	4.1.2-1 or later
Red Hat Enterprise Linux 7 (Update5)	3.10.0-862.el7.x86_64	✓	✓	4.0.1-1 or later
	3.10.0-862.3.3.el7.x86_64	✓	✓	4.0.1-1 or later
	3.10.0-862.14.4.el7.x86_64	✓	✓	4.1.0-1 or later
	3.10.0-862.37.1.el7.x86_64	✓	✓	4.1.2-1 or later
Red Hat Enterprise Linux 7 (Update4)	3.10.0-693.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-693.2.2.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-693.5.2.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-693.11.6.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-693.21.1.el7.x86_64	✓	✓	4.1.0-1 or later
	3.10.0-693.39.1.el7.x86_64	✓	✓	4.1.0-1 or later
Red Hat Enterprise Linux 7 (Update3)	3.10.0-514.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-514.6.1.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-514.21.1.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-514.21.2.el7.x86_64 <sup>2</sup>	n/a	n/a	—
	3.10.0-514.26.2.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-514.58.1.el7.x86_64	✓	✓	4.1.0-1 or later
Red Hat Enterprise Linux 7 (Update2)	3.10.0-327.62.1.el7.x86_64 <sup>1</sup>	✓	✓	4.1.0-1 or later
Red Hat Enterprise Linux 6 (Update10)	2.6.32-754.el6.x86_64	✓	✓	4.0.1-1 or later
	2.6.32-754.6.3.el6.x86_64	✓	✓	4.0.1-1 or later
	2.6.32-754.18.2.el6.x86_64	✓	✓	4.1.2-1 or later
	2.6.32-754.29.2.el6.x86_64	✓	✓	4.2.2-1 or later
	2.6.32-754.35.1.el6.x86_64	✓	✓	4.3.0-1 or later
Red Hat Enterprise Linux 6 (Update9)	2.6.32-696.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.3.1.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.10.3.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.16.1.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.18.7.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.30.1.el6.x86_64	✓	✓	4.0.1-1 or later
Red Hat Enterprise Linux 6 (Update8)	2.6.32-642.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-642.6.1.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-642.15.1.el6.x86_64	✓	✓	4.0.0-1 or later
MIRACLE LINUX 8.4	4.18.0-305.el8.x86_64	✓	✓	4.3.2-1 or later
MIRACLE LINUX 8 Asianux Inside	4.18.0-147.5.1.el8.x86_64	✓	✓	4.2.2-1 or later
Asianux Server 7 (SP5)	3.10.0-1160.15.2.el7.x86_64	✓	✓	4.3.0-2 or later
Asianux Server 7 (SP3)	3.10.0-957.1.3.el7.x86_64	✓	✓	4.1.1-1 or later
Asianux Server 7 (SP2)	3.10.0-693.2.2.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-693.5.2.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-693.11.6.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-862.2.3.el7.x86_64	✓	✓	4.1.0-1 or later
	3.10.0-862.9.1.el7.x86_64	✓	✓	4.1.0-1 or later

Distribution	Kernel version	Replicator Replicator DR support	clpka,clpkhb support	EXPRESSCLUSTER Version
Asianux Server 7 (SP1)	3.10.0-327.3.1.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-327.13.1.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-327.28.3.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-327.36.2.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-514.6.1.el7.x86_64	✓	✓	4.0.0-1 or later
	3.10.0-514.26.2.el7.x86_64	✓	✓	4.0.1-1 or later
Asianux Server 4 (SP7)	2.6.32-696.1.1.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.13.2.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.18.7.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-696.28.1.el6.x86_64	✓	✓	4.0.1-1 or later
	2.6.32-754.2.1.el6.x86_64	✓	✓	4.1.0-1 or later
Asianux Server 4 (SP6)	2.6.32-642.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-642.4.2.el6.x86_64	✓	✓	4.0.0-1 or later
	2.6.32-642.15.1.el6.x86_64	✓	✓	4.0.0-1 or later
Novell SUSE LINUX Enterprise Server 15 (SP2)	5.3.18-22-default <sup>3</sup>	n/a	n/a	4.3.0-1 or later
Novell SUSE LINUX Enterprise Server 15 (SP1)	4.12.14-195.1-default	n/a	✓	4.2.0-1 or later
	4.12.14-197.18.1-default	n/a	✓	4.2.0-1 or later
Novell SUSE LINUX Enterprise Server 15	4.12.14-23.1-default	n/a	✓	4.2.0-1 or later
	4.12.14-150.35.1-default	n/a	✓	4.2.0-1 or later
Novell SUSE LINUX Enterprise Server 12 (SP5)	4.12.14-120-default <sup>3</sup>	n/a	n/a	4.3.0-1 or later
Novell SUSE LINUX Enterprise Server 12 (SP4)	4.12.14-95.32.1-default	n/a	✓	4.2.0-1 or later
	4.12.14-94.41.1-default	n/a	✓	4.2.0-1 or later
Novell SUSE LINUX Enterprise Server 12 (SP2)	4.4.21-69.1-default	✓	✓	4.1.0-1 or later
	4.4.120-92.70.1-default	✓	✓	4.1.0-1 or later
Novell SUSE LINUX Enterprise Server 12 (SP1)	3.12.49-11.1-default	✓	✓	4.0.0-1 or later
	3.12.49-11.1-xen	✓	✓	4.0.0-1 or later
	3.12.74-60.64.40.1-default	✓	✓	4.0.0-1 or later
	3.12.74-60.64.40.1-xen	✓	✓	4.0.0-1 or later
	3.12.74-60.64.69.1-default	✓	✓	4.0.0-1 or later
	3.12.74-60.64.69.1-xen	✓	✓	4.0.0-1 or later
	3.12.74-60.64.96.1-default	✓	✓	4.0.1-1 or later
Novell SUSE LINUX Enterprise Server 11 (SP4)	3.0.101-63.1-default	✓	✓	4.0.0-1 or later
	3.0.101-63.1-xen	✓	✓	4.0.0-1 or later
	3.0.101-80.1-default	✓	✓	4.0.0-1 or later
	3.0.101-80.1-xen	✓	✓	4.0.0-1 or later
	3.0.101-100.1-default	✓	✓	4.0.0-1 or later
	3.0.101-100.1-xen	✓	✓	4.0.0-1 or later
	3.0.101-108.13.1-default	✓	✓	4.0.0-1 or later
	3.0.101-108.13.1-xen	✓	✓	4.0.0-1 or later
3.0.101-108.21.1-default	✓	✓	4.0.0-1 or later	
	3.0.101-108.21.1-xen	✓	✓	4.0.0-1 or later
	3.0.101-108.57.1-default	✓	✓	4.0.1-1 or later

Distribution	Kernel version	Replicator Replicator DR support	clpka,clpkhb support	EXPRESSCLUSTER Version
Novell SUSE LINUX Enterprise Server 11 (SP3)	3.0.76-0.11.1-default	✓	✓	4.0.0-1 or later
	3.0.76-0.11.1-xen			
	3.0.82-0.7.9-default	✓	✓	4.0.0-1 or later
	3.0.82-0.7.9-xen			
	3.0.101-0.40.1-default	✓	✓	4.0.0-1 or later
	3.0.101-0.40.1-xen			
	3.0.101-0.47.55.1-default	✓	✓	4.0.0-1 or later
3.0.101-0.47.55.1-xen				
Oracle Linux 8.3	3.0.101-0.47.71.1-default	✓	✓	4.0.0-1 or later
	3.0.101-0.47.71.1-xen			
Oracle Linux 8.3	5.4.17-2011.7.4.el8uek.x86_64	n/a	✓	4.3.0-2 or later
Oracle Linux 7.7 UEK5	4.14.35-1902.3.2.el7uek.x86_64	✓	✓	4.2.0-1 or later
	4.14.35-1902.5.2.2.el7uek.x86_64	✓	✓	4.2.0-1 or later
Oracle Linux 7.5	4.1.12-124.16.4.el7uek.x86_64	✓	✓	4.1.0-1 or later
	4.1.12-124.30.1.el7uek.x86_64	✓	✓	4.3.0-1 or later
Oracle Linux 7.3 UEK4	4.1.12-61.1.28.el7uek.x86_64	n/a	✓	4.0.0-1 or later
Oracle Linux 6.6	2.6.39-400.211.1.el6uek.x86_64	✓	✓	4.0.0-1 or later
Ubuntu 20.04.1 LTS	5.8.0-38-generic <sup>*3</sup>	n/a	n/a	4.3.0-1 or later
Ubuntu 18.04.3 LTS	4.15.0-55-generic	n/a	✓	4.2.0-1 or later
Ubuntu 16.04.3 LTS	4.4.0-87-generic	✓	✓	4.0.0-1 or later
	4.4.0-112-generic	✓	✓	4.0.0-1 or later
	4.4.0-151-generic	✓	✓	4.2.1-1 or later
Ubuntu 14.04 LTS	3.13.0-24-generic	✓	✓	4.0.0-1 or later
	3.13.0-139-generic	✓	✓	4.0.0-1 or later
Amazon Linux 2	4.14.88-88.76.amzn2.x86_64	✓	✓	4.1.0-1 or later
	4.14.138-114.102.amzn2.x86_64	✓	✓	4.2.0-1 or later
	4.14.203-156.332.amzn2.x86_64	✓	✓	4.3.0-1 or later

\*1: In order to use the kernel, the Extended Update Support (EUS) or the Advanced Mission Critical UpdateSupport (AUS) of Red Hat Enterprise Linux is required.

\*2: The kernel is not supported by EXPRESSCLUSTER.

\*3: Use LAN heartbeat resource for heartbeat resources and softdog for a monitoring method of user modemonitor resources.