Inspur inMerge HCI System
Best Recipe

V 1.2

Revision Table

Date	Modified	Remarks
Mar 31, 2021	Official Version Release	V 1.0
April 12, 2021	Update platform FW version and add new HDD capacity(3.5" SAS 12TB)	V 1.1
Sep 1 , 2021	Update platform FW version; Add new SSD capacity(2.5" SATA 3.84TB) and capacity(2.5" SATA 1.92TB) ; Add new nic (1G Quad RJ45) and (10G Dual LC) ; Add FW version to Storage Controller and Raid card ; And new GPU type	V 1.2

INSPUR inMerge System Configuration

This document specifies the hardware, software, and firmware that the Nutanix platform requires to run on Inspur inMerge HCI Systems.

inMerge1000M5L & inMerge1000M5L-Core Configuration

Qualification date: November 2018

Use cases:

- Analytics and Big Data
- Backup and Disaster Recovery
- Files and Objects
- Private Cloud
- Test and Development
- End-User Computing/Virtual Desktop Infrastructure

Note: Only Legacy BIOS is supported.

Table 1: Server Model

Component	Description
Server Model	NF5280M5 12x 3.5inch, Redundant PS, BMC +KVM, Rails, Rackmount ARM 2U Nodes per chassis: 1
	BIOS: 4.1.16
	BMC: 4.26.5
	Expander: 501
Boot Drive	Boot drive or RAID card
	240GB/480GB Intel S4510 M.2 SSD Qty: 1-2
	SND 9230 M.2 Raid card； Firmware: 2.3.24.1008 Qty: 1
Power Supply	800W/1300W/1600W 1U PSU Qty: 2

Table 2: CPU and Memory

CPU configuration	Memory configuration
Intel Skylake Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
Intel Cascade Lake or Cascade Lake Refresh Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2933 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2933, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
	DDR4-2933, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB

	16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
	DDR4-2666, 1.2V, 64 GB, LRDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB

Table 3: Storage

Component	Description	
Storage Controller	Inspur SAS3008IT Card； Firmware: 16.00.10.00	
Storage: All-Flash	Only SATA SSDs	
	4, 5, 6, 7, 8, 9, 10, 11, or 12 x 2.5” SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
Storage: Hybrid	Mix of SATA SSDs and HDDs	
	2, 3, or 4 x 2.5" SATA SSDs	
	480GB	Intel S4610 SSD
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
	4, 5, 6, 7, 8, 9, or 10 x 2.5"/3.5" HDDs Note: • The HDDs need to be twice or more the number of SSDs. • A maximum of 120 TB storage per node is supported.	
	2.5” SAS	1.2, 1.8, 2.4TB 10K RPM SAS HDDs
	3.5” SAS	2,4, 6, 8, 10, 12TB 7200K RPM SAS HDDs

Table 4: Networking

Component	Description	Firmware
PCIe Interface Card	Supported up to 2 Cards	
	1 x Intel I350-T4V2 NIC	0x80001001
	Intel 82599ES 10G Dual NIC	0093.ffff
	Intel X540 10G Dual NIC	4.05.0
	Melanox 25G_MCX4121A-ACAT NIC	14.25.1020
	Inspur 82599ES 10G Dual LC NIC	4022.4022
	Inspur X710 10G Dual LC NIC	7.10
	Inspur X540 10G Dual RJ45 NIC	4.05.0
	Inspur I350-AM4 1G Quad RJ45 NIC	1.63
	Inspur I350-AM2 1G Dual RJ45 NIC	1.63
FLOM Adapter	Supported up to 1 Card	
	OCP 25G_CX4LX NIC	14.25.1020
	OCP 25G_MCX4421ACQN NIC	14.25.1020
	OCP 10G_X520DA2OCP NIC	4030.003
	OCP 10G_82599_LC NIC	4040.404
Dual NIC Configuration	By default the system supports up to two NICs. In case additional NICs are required please contact Inspur for more details.	

inMerge1000M5G & inMerge1000M5G-Core Configuration

Qualification date: April 2020

Use cases:

- End-User Computing/Virtual Desktop Infrastructure

Note: Only Legacy BIOS is supported.

Table 1: Server Model

Component	Description
Server Model	NF5280 M5 8x 3.5inch, Redundant PS, BMC +KVM, Rails, Rackmount ARM 2U Nodes per chassis: 1
	BIOS: 4.1.16
	BMC: 4.26.5
Boot Drive	Boot drive or RAID card
	240GB/480GB Intel S4510 M.2 SSD Qty: 1-2
	SND 9230 M.2 Raid card；Firmware: 2.3.24.1008 Qty: 1
Power Supply	800W/1300W/1600W 1U PSU Qty: 2

Table 2: CPU and Memory

CPU configuration	Memory configuration
Intel Skylake Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
Intel Cascade Lake or Cascade Lake Refresh Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2933 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2933, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
	DDR4-2933, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB

	16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
	DDR4-2666, 1.2V, 64 GB, LRDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB

Table 3: Storage

Component	Description	
Storage Controller	Inspur SAS3008IT Card； Firmware: 16.00.10.00	
Storage: All-Flash	Only SATA SSDs	
	2, 3, 4, 5, 6, 7, or 8 x 2.5” SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
Storage: Hybrid	Mix of SATA SSDs and HDDs	
	2 x 2.5" SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
	4, 5, or 6 x 2.5"/3.5" HDDs Note: • The HDDs need to be twice or more the number of SSDs. • A maximum of 120 TB storage per node is supported.	
	2.5” SAS	1.2, 1.8, 2.4TB 10K RPM SAS HDDs
	3.5” SAS	2, 4, 6, 8, 10, 12TB 7200K RPM SAS HDDs

Table 4: Networking

Component	Description	Firmware
PCIe Interface Card	Supported up to 2 Cards	
	1 x Intel I350-T4V2 NIC	0x80001001
	Intel 82599ES 10G Dual NIC	0093.ffff
	Intel X540 10G Dual NIC	4.05.0
	Melanox 25G_MCX4121A-ACAT NIC	14.25.1020
	Inspur 82599ES 10G Dual LC NIC	4022.4022
	Inspur X710 10G Dual LC NIC	7.10
	Inspur X540 10G Dual RJ45 NIC	4.05.0
	Inspur I350-AM4 1G Quad RJ45 NIC	1.63
	Inspur I350-AM2 1G Dual RJ45 NIC	1.63
FLOM Adapter	Supported up to 1 Card	
	OCP 25G_CX4LX NIC	14.25.1020
	OCP 25G_MCX4421ACQN NIC	14.25.1020
	OCP 10G_X520DA2OCP NIC	4030.003
	OCP 10G_82599_LC NIC	4040.404
Dual NIC Configuration	By default the system supports up to two NICs. In case additional NICs are required please contact Inspur for more details.	

Table 5: GPU

Component	Description
Computation and Graphics Accelerators	1, 2, or 3 x Computation and Graphics Accelerators Note: A maximum of 3 GPUs of the same type are supported. The RTX GPUs' minimum AOS requirement is 5.19.
	Nvidia Tesla T4 16GB
	Nvidia Tesla V100 16GB
	Nvidia Tesla V100 32GB
	Nvidia Tesla P40 24GB
	Nvidia Tesla V100S 32GB
	Nvidia RTX6000 24GB
	Nvidia RTX8000 48GB
	Nvidia Tesla A100 40GB

inMerge1000M5S & inMerge1000M5S-Core Configuration

Qualification date: May 2020

Use cases:

- Analytics and Big Data
- Backup and Disaster Recovery
- Private Cloud
- Test and Development
- End-User Computing/Virtual Desktop Infrastructure

Note: Only Legacy BIOS is supported.

Table 1: Server Model

Component	Description
Server Model	NF5280 M5 24x 2.5inch, Redundant PS, BMC +KVM, Rails, Rackmount ARM 2U Nodes per chassis: 1
	BIOS: 4.1.16
	BMC: 4.26.5
Boot Drive	Boot drive or RAID card
	240GB/480GB Intel S4510 M.2 SSD Qty: 1-2
	SND 9230 M.2 Raid card；Firmware: 2.3.24.1008 Qty: 1
Power Supply	800W/1300W/1600W 1U PSU Qty: 2

Table 2: CPU and Memory

CPU configuration	Memory configuration
Intel Skylake Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
Intel Cascade Lake or Cascade Lake Refresh Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2933 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 24 x 16 GB = 384 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2933, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB 24 x 32 GB = 768 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB
	DDR4-2933, 1.2V, 64 GB, RDIMM 12 x 64 GB = 768 GB

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	DDR4-2666, 1.2V, 64 GB, LRDIMM 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB 24 x 64 GB = 1.5 TB

Table 3: Storage

Component	Description	
Storage Controller	Inspur SAS3008IT Card；Firmware: 16.00.10.00	
Storage: All-Flash	Only SATA SSDs	
	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, or 24 x 2.5” SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
Storage: All-Flash	Only SATA and NVMe SSDs	
	4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 x 2.5" SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
	4 x 2.5" NVMe SSDs	
	750GB	Intel P4800X Optane SSD
	1.5TB	Intel P4800X Optane SSD
	3.2TB	Intel P4610 SSD
Storage: Hybrid	Mix of SATA SSDs and HDDs	
	4, 5, 6, 7, or 8 x 2.5" SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4610, S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510 or Samsung SM883， PM883 SSD
	8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, or 20 x 2.5" HDDs	

	Note: • The HDDs need to be twice or more the number of SSDs. • A maximum of 120 TB storage per node is supported.	
	2.5" SAS	1.2, 1.8, 2.4TB 10K RPM SAS HDDs

Table 4: Networking

Component	Description	Firmware
PCIe Interface Card	Supported up to 2 Cards	
	1 x Intel I350-T4V2 NIC	0x80001001
	Intel 82599ES 10G Dual NIC	0093.ffff
	Intel X540 10G Dual NIC	4.05.0
	Melanox 25G_MCX4121A-ACAT NIC	14.25.1020
	Inspur 82599ES 10G Dual LC NIC	4022.4022
	Inspur X710 10G Dual LC NIC	7.10
	Inspur X540 10G Dual RJ45 NIC	4.05.0
	Inspur I350-AM4 1G Quad RJ45 NIC	1.63
	Inspur I350-AM2 1G Dual RJ45 NIC	1.63
FLOM Adapter	Supported up to 1 Card	
	OCP 25G_CX4LX NIC	14.25.1020
	OCP 25G_MCX4421ACQN NIC	14.25.1020
	OCP 10G_X520DA2OCP NIC	4030.003
	OCP 10G_82599_LC NIC	4040.404
Dual NIC Configuration	By default the system supports up to two NICs. In case additional NICs are required please contact Inspur for more details.	

inMerge900M5S&inMerge900M5S-Core Configuration

Qualification date: December 2019

Use cases:

- Analytics and Big Data
- Private Cloud
- Test and Development
- End-User Computing/Virtual Desktop Infrastructure

Note: Only Legacy BIOS is supported.

Table 1: Server Model

Component	Description
Server Model	i24-NS5162 24x 2.5", 2000W Redundant PS, BMC +KVM, Rails Nodes per chassis: 4
	BIOS: 4.1.9
	BMC: 4.4.1
	CMC: 3.18.0
Boot Drive	Boot drive or RAID card
	240GB/480GB Intel S4510 M.2 SSD Qty: 1-2
	SND 9230 M.2 Raid card；Firmware: 2.3.24.1008 Qty: 1
Power Supply	2000W 1U PSU Qty: 2

Table 2: CPU and Memory

CPU configuration	Memory configuration（Per Node）
Intel Skylake Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 16x 16 GB = 256 GB
	DDR4-2933, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 16x 16 GB = 256 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB
	DDR4-2933, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB
	DDR4-2666, 1.2V, 64 GB, LRDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB
	DDR4-2933, 1.2V, 64 GB, LRDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB
Intel Cascade Lake or Cascade Lake Refresh Various CPU ● Silver, Gold, or Platinum ● 8 or more cores per CPU Qty: 2	DDR4-2666, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 16x 16 GB = 256 GB
	DDR4-2933, 1.2V, 16 GB, RDIMM 12 x 16 GB = 192 GB 16x 16 GB = 256 GB
	DDR4-2666, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB

	12 x 32 GB = 384 GB 16 x 32 GB = 512 GB
	DDR4-2933, 1.2V, 32 GB, RDIMM 8 x 32 GB = 256 GB 12 x 32 GB = 384 GB 16 x 32 GB = 512 GB
	DDR4-2666, 1.2V, 64 GB, RDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB
	DDR4-2933, 1.2V, 64 GB, RDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB
	DDR4-2666, 1.2V, 64 GB, LRDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB
	DDR4-2933, 1.2V, 64 GB, LRDIMM 8 x 64 GB = 512 GB 12 x 64 GB = 768 GB 16 x 64 GB = 1 TB

Table 3: Storage

Component	Description (Per Node)	
Storage Controller	Inspur SAS3008IT Card；Firmware: 16.00.10.00	
Storage: All-Flash	Only SATA/SAS SSDs	
	2, 3, 4, 5, or 6 x 2.5" SATA/SAS SSDs, per node	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510, S4610, Samsung PM883, or SM883 SSD
Storage: All-Flash	Only SATA/SAS and NVMe SSDs	
	4 x 2.5" SATA/SAS SSDs, per node	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4510, or Samsung SM883， PM883 SSD
	3.84TB	Intel S4510, S4610, Samsung PM883, or SM883 SSD
	2 x 2.5" NVMe SSDs	
	750GB	Intel P4800X Optane SSD
	1.5TB	Intel P4800X Optane SSD
	3.2TB	Intel P4610 SSD
Storage: Hybrid	Mix of SATA SSDs and HDDs	
	2 x 2.5" SATA SSDs	
	960GB	Intel S4610 or Samsung SM883 SSD
	1.92TB	Intel S4510, or Samsung SM883，PM883 SSD
	3.84TB	Intel S4510, S4610, Samsung PM883, or SM883 SSD
	4 x 2.5" HDDs Note: • The HDDs need to be twice or more the number of SSDs.	
	2.5” SAS	1.2, 1.8, 2.4TB 10K RPM SAS HDDs

Table 4: Networking

Component	Description	Firmware
PCIe Interface Card	Supported up to 1 Card	
	Inspur I350-AM4 1G Quad RJ45 NIC	1.63
	Inspur 82599ES 10G Dual LC NIC	4022.4022
	1 x Melanox 25G_MCX4121A-ACAT NIC	14.25.1020
FLOM Adapter	Supported up to 1 Card	
	OCP 25G_CX4LX NIC	14.25.1020
	OCP 25G_MCX4421ACQN NIC	14.25.1020
	OCP 10G_X520DA2OCP NIC	4030.003
	OCP 10G_82599_LC NIC	4040.404
	OCP 10G_X557 RJ NIC	3.33
Dual NIC Configuration	The system can support 2 NICs	

Note: The PCIe Network Interface quantity is per node

Software Compatibility Overview

AOS	Type	AHV	ESXi	Foundation	NCC
>= 5.10.10	LTS	>= 20170830.396	6.5 U3 6.7 U3	5.x	4.2
>= 5.15.2	LTS	>= 20170830.434	6.5 U3 6.7 U3 7.0 U2a		
>= 5.19	STS	>= 20201105.12	6.5 U3 6.7 U3 7.0 U2a		
>=5.20	LTS	>=v7.2	6.5 U3 6.7 U3 7.0 U2a		
>=6.0	STS	>=v7.2.1	6.5 U3 6.7 U3 7.0 U2a		