Product Description

To meet the growing IT needs affecting Naval programs, Infordata has developed a line of specific solutions focused on giving an effective answer to the typical issues related to shipboard systems. The new Infordata Naval System Family includes a series of products engineered to guarantee the technical, environmental and quality requirements that the onboard systems must specifically comply with.

The INF-NVL family introduce an innovative modular concept studied in order to allow the easiest shipboard maintenance thanks to the interchangeability of its main computational and service modules.

The main base system is composed by INF-NVL2-CHS a 2U rack mount Chassis with redundant power supply and fans with two different module slots interconnected by a shared backplane; the computational system INF-NVL-X20 is hosted on the left easy swappable module that allows customers to have a powerful high performance machine in a very dense form factor in order to fit all applications that require high power in a very tiny space, this server module supports up to two Intel® Xeon® 1st and 2nd generation CPUs and up to 2.8TB DDR4 Memory; the other module slot can be used to host one of the many available service modules engineered to give different kind of functionalities (from video remotization to storage expansion passing through a wide range of customization possibilities), in this specific configuration the INF-NVL-SVR Service module extend the machine storage capabilities providing up to eight fast disk slots with advanced RAID protection.

The INF-NVL2-X20-SVR server grant to customers the following exceptional features:

- Modular system with a wide range of configuration capabilities
- Simplified shipboard management
- Latest Xeon 1st and 2nd generation Intel Dual Socket processors
- RAM up to 2.8TB
- Advanced Graphic functionalities (Nvidia Quadro P1000)
- Scalable storage availability through dedicated Storage Service Module
- very wide range of relative non-condensing humidity (5% ~ 95%)
- very wide range of Operative temperature (5° ~ 45°),
- Compliance with MIL-STD-810G and MIL-STD-167-1A**
- CE, REACH and RoHS Certifications

Chassis Technical Specifications

PART NUMBER	INF-NVL2-CHS
FORM FACTOR	Rack 19" – 2U
RACK MOUNT	Rail Kit included
MODULE SLOTS	n°2 Module Slots: • n.1 Computational Module slot (INF-NVL-X20) • n.1 Service Module slot (INF-NVL-SVR)
POWER SUPPLY	n°2 1000W Hot Swap Auto ranging Power Supply 85÷264V AC 47 ÷ 63 Hz Frequency
EMI/EMC	EN55032 EN55024
SAFETY	EN 62479 MIL-HDBK-2036 MIL-STD-1310H
COOLING	Fans with tachometric control

Computational module Technical Specifications

PART NUMBER	INF-NVL-X20
MOTHERBOARD	Intel® technology based
PROCESSORS	Intel® Xeon® Processor Scalable Family 1st and 2nd generation: Intel Xeon® Platinum Intel Xeon® Gold Intel Xeon® Silver Intel Xeon® Bronze Supports Intel Omni-Path integrated fabric connectors with a bandwidth up to 100 Gb/s per processor
CONFIGURED CPU	n°2 Intel Xeon Gold 5220S - Processor Base Frequency 2.70 GHz - Max Turbo Frequency 3.90 GHz – Cache 24.75 MB

CHIPSET	Intel® C621 Chipset
RAM	Max Memory Size: 2.8 TB* 16 DIMM Slots (8 per CPU) DDR4 RDIMM/LRDIMM, Up to 2933 MT/s** DDR4 Intel® Optane™ DC PMM , Up to 2666 MT/s, 1.2V *Notes:* *The maximum memory size dependent on memory type* **Memory speed supported is dependent on the installed processor SKU and population configuration.*
CONFIGURED RAM	256GB DDR4 memory
DISKS SLOTS	n.4 2,5" SATA III Hot swappable
CONFIGURED STORAGE	n.1 2,5" SSD 480GB
AVAILABLE PCIE SLOTS	Available PCIe Slots*: • n°1 PCIe x24 • n°1 PCIe x16 *Note: interfaces available on Riser Slot 3 and Riser Slot 4 have High Density Connector – 3M interface.*

INTERFACES	On front available Interfaces:
	• 2x RJ45 10GbE Ethernet LAN integrated ports
	• 4x RJ45 1GbE Ethernet LAN ports through Intel PCIe Adapter
	• 1x RJ45 Management Port IPMI 2.0
	• 2 x USB 3.0 Type A integrated on board
	• 1 x VGA DSUB 15 pin
	• 4 x Mini Display Port
	• 1 x Unit Control Panel
	• 1 x Jack 3,5mm microphone connector **
	• 1 x Jack 3,5mm headset connector **
	
	Internal available Interfaces:
	• 2 x USB 2.0 Type A*
	
	Notes:
	
	  * Available only if Audio card is not installed*
	  ** Optional module*

GRAPHIC	The system host an integrated graphic card on board and one Nvidia Quadro discrete Graphic Adapter:
	• Integrated graphic card: ASpeed AST2500 up tp 1900x1200 a 16 Bit Color
	• Discrete Nvidia graphic adapter: NVIDIA® QUADRO® P1000
	  o GPU memory: 4 GB GDDR5
	  o Chip: NVIDIA CUDA® Cores 640
	  o Interface: PCI Express 3.0 x16
	  o Max power sink: 47 W

![Infordata logo - your techpartner]

	o Interface: 4x mDP 1.4
	o Max Resolution: 4x 4096x2160 @ 60Hz
	o Graphics APIs Shader Model 5.1,
	o OpenGL 4.54
	o DirectX 12.05
	o Vulkan 1.04
BIOS	Supported both legacy and UEFI boot modes
SUPPORTED OPERATING SYSTEM	Windows Server 2019 Windows Server 2016 Windows Server 2012 R2 Red Hat Enterprise Linux 8,0 Red Hat Enterprise Linux 7.7 Red Hat Enterprise Linux 7.6 Red Hat Enterprise Linux 7.5 Red Hat Enterprise Linux 7.3 Red Hat Enterprise Linux 7.1* SUSE Linux Enterprise Server 15 SUSE Linux Enterprise Server 12 SP2 SUSE Linux Enterprise Server 11 SP4 CentOS Ubuntu VMware ESXi 6.7 VMware ESXi 6.5 VMware ESXi 6.0 VMware ESXi 5.5* *Note: The compatibility for RHEL 7.1 and ESXi 5.5 if requested can be provided configuring the system with an old generation Intel motherboard. Consider that this option may be subject to EoL from the manufacturer.*
COOLING	Counter-rotating blade fan with tachometric control
POWER	12VDC
MAXIMUM SINK POWER	450W
EMI/EMC	EN55032 EN55024 *Note: tests performed on AC power supply*
SAFETY	EN62479 MIL-HDBK-2036 *Note: tests performed on AC power supply*

Service module Technical Specifications

PART NUMBER	INF-NVL-SVR
RAID CONTROLLER	Hardware RAID Controller Adapter Supports RAID 0,1,5,6,10,50,60
DISKS SLOTS	n° 8 2,5" SATA III hot swappable
CONFIGURED STORAGE	n.8 2,5" SSD 1TB
PCIE EXPANSION SLOTS	Available internal PCIe Slots: • N°1 PCIe x8
MAXIMUM SINK POWER	150W
COOLING	Suction fans

Configuration Ordering Code

INF-NVL2-X20-SVR	Infordata Naval System Rack Mount Server 2U ▪ Redundant Power Supply 85÷264V AC Auto ranging 1000W ▪ INF-NVL-X20 Computational Module with Dual Intel Xeon Gold 5220S ▪ 256GB RAM DDR4 ▪ 1 x SSD 480GB ▪ Nvidia Quadro P1000 Graphic Adapter ▪ 2x RJ45 10GbE Ethernet LAN ports ▪ 4x 1GbE Ethernet LAN ports ▪ INF-NVL-SVR Service Module with 8 x SSD 1TB ▪ Controller RAID 0,1,5,6,10,50,60 ▪ MIL-STD-810G / MIL-STD-167-1A.

Environmental & Quality Specifications

TEMPERATURE	Operating: 5°C ° +45°C Storage: -40°C a +70°C
HUMIDITY	Relative Humidity: 5% ~ 95% (non condensing)

| CERTIFICATIONS	CE - Reach - RoHS
**COMPLIANCE MIL-STD	MIL-STD-810Gw/CHANGE 1 MIL-STD-167-1A MIL-STD-2073 MIL-STD-1474E (Rif. R9)
MAXIMUM NOISE LEVEL	<70 dBA
MTBF	100000hrs @ 25°C; 60000hrs @ 45°C; 40000hrs @ 60°C
MTTR / MTTR MAX	30 minutes
MTBCF	60.000hrs
RELIABILITY	24 / 7 hrs

INF-NVL2-X20-SVR Dimensions

INF-NVL2-CHS
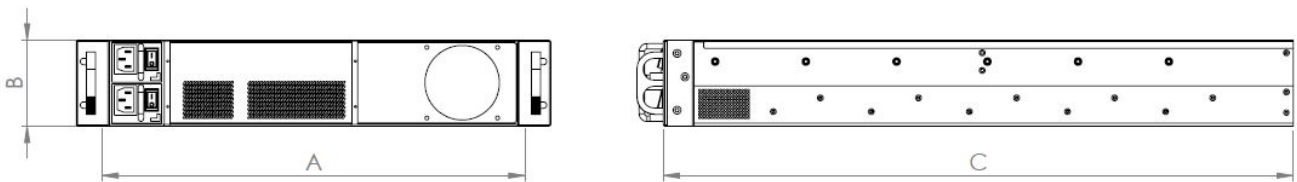
Chassis dimensions, front view and side view

MODULO CHASSIS	A [mm]	B [mm]	C [mm]	PESO [kg]
INF-NVL2-CHS	431	88	635	8

INF-NVL-X20
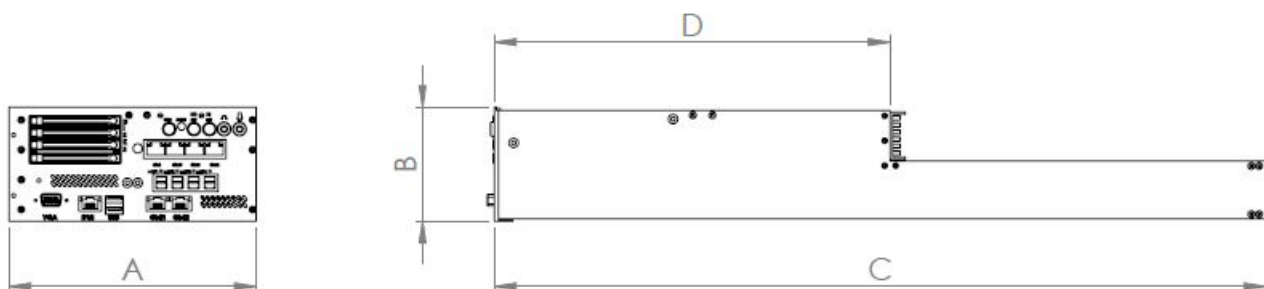
Computational module dimensions, front view and side view

MODULO COMPUTAZIONALE	A [mm]	B [mm]	C [mm]	D [mm]	PESO [kg]
INF-NVL-X20	190mm	88	595	305	6

INF-NVL-SVR
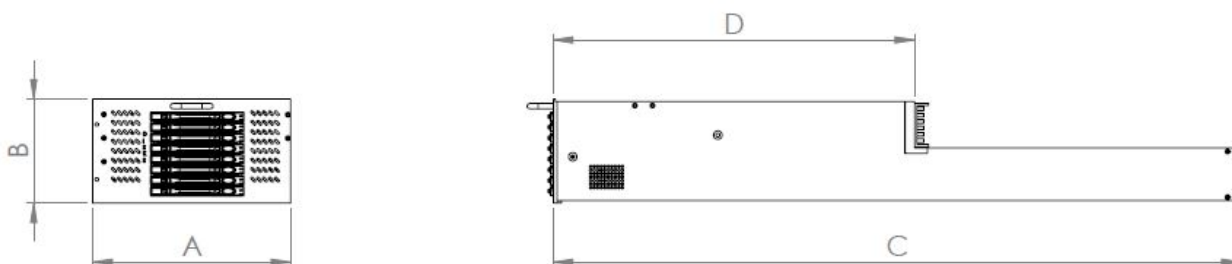
Storage module dimensions, front view and side view

MODULO SERVIZI	A [mm]	B [mm]	C [mm]	D [mm]	PESO [kg]
INF-NVL-SVR	167	88	583	306	5

Last review: November 2020