

Powering Intelligence in your IoT

The exponential growth of intelligent sensors and devices is generating an unprecedented amount of data. This is reshaping IT architectures, as increasingly powerful processing and machine learning inference capabilities are required at the Edge of the networks to enable next generation, transformative AI and IoT applications. BullSequana Edge has been designed to meet these challenges, delivering powerful AI inference and streaming analytics capabilities while ensuring that all data remains safe and secure.

Designed to operate outside of the datacenter

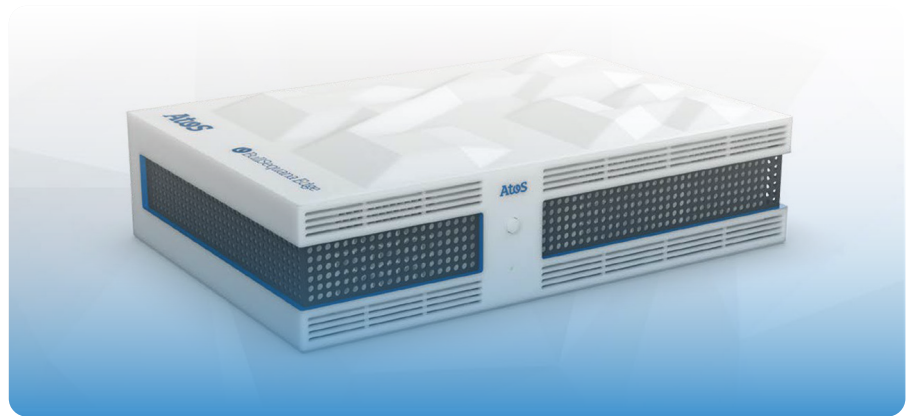
In order to reduce latency and to optimize network bandwidth, Edge servers often need to be placed in close proximity of IoT devices such as cameras, sensors or production robots. BullSequana Edge is capable to function in weather protected locations which are only partially temperature controlled and can therefore operate in a variety of locations such as airports, shops or factory floors. Moreover, BullSequana Edge offers very flexible deployment choices such as desktop, wall or rack mount options.

Hyperconverged infrastructure for accelerated Edge Data Analytics

In order to reduce latency and to optimize network bandwidth, Edge servers often need to be placed in close proximity of IoT devices such as cameras, sensors or production robots. BullSequana Edge is capable to function in weather protected locations which are only partially temperature controlled and can therefore operate in a variety of locations such as airports, shops or factory floors. Moreover, BullSequana Edge offers very flexible deployment choices such as desktop, wall or rack mount options.

WiFi, 4G, LTE, 5G and Lora

Thanks to its Wifi, 4G, LTE, 5G and Lora radio capabilities, BullSequana Edge also ensures IoT connectivity. The radios capabilities make the server independent from traditional network connectivity and allow deployment in locations which are not equipped for isolated.



High end AI and machine learning performance

BullSequana Edge has been designed to provide leading AI acceleration capabilities for resources hungry Video streaming analytics. The server can host up to two powerful Nvidia Tesla T4 GPUs or optional FPGA's. This enables the inference of complex AI models right at the edge with lowest possible latency. Together with its powerful 16 core Intel Xeon processor, BullSequana Edge provides an outstanding compute power-pack for the implementation of up to 512 GB RAM and 28 TB storage.

Atos Computer Vision Platform

BullSequana Edge is the optimal server to run Ipsotek VISuite, the software stack of Atos Computer Vision Platform. BullSequana Edge is available in several configuration for various purposes of Ipsotek VISuite.

Security and Data protection

When located outside of a datacenter, the risk of physical intrusion increases substantially. BullSequana Edge has therefore been equipped with an Intrusion Sensor which disables the machine in case of physical attacks. A secure boot process can be put in place including signed firmware, bootloader and the OS, protected by a FIPS 140-2 certified TPM and encrypted disks.

BullSequana Edge Key benefits

1. Designed for AI
2. Secured IoT & Cloud capabilities
3. End to end service from Atos.

BullSequana Edge Hardware Specifications

The BullSequana Edge is composed with the following elements:

Processor

CPU	1 socket 16 cores / 32 threads
Type	Intel Xeon D-2183IT
Vector Extension	AVX-512 / 1 FMA
GPU	Up to 2 Nvidia Tesla 4 Nvidia NGC Certified

Architecture

Chipset	System On Chip (SOC)
---------	----------------------

Memory

Min / max	From 32 to 512 GB
Type	RDIMM & LR-DIMM 2666MT/s

Storage

Storage capacity (up to 2 discs)	SSD 480GB, 960GB or 1.921TB HDD 8TB or 14TB
-------------------------------------	--

Embedded I/O ports

Network Interface Controller (NIC)	2 x 10Gb/s SFP+ (optional) 2 x 1Gb/s RJ45
System Management	<ul style="list-style-type: none"> 1Gb/s RJ45 BMC WIFI adapter (optional) OpenBMC REST API and RedFish support IPMI (optional – deactivated by default)
USB ports	2 x USB 3.0

Power

Power	Power supply type: 500W Maximum power consumption: 380W
-------	--

Security

Security features	Intrusion detection switch TPM 2.0 (FIPS 140-2, EL4+) Secure boot (optional) Disk encryption (optional) Intel QAT (IPSEC acceleration)
-------------------	--

I/O

I/O	PCI slots: <ul style="list-style-type: none"> 2 x PCIe Gen3 16 2x mPCI 2 SATA disks (SSD or HDD)
Accelerators (optional)	GPU <ul style="list-style-type: none"> Up to 2x NVIDIA T4 FPGA Up to 2x FPGA 75W Up to 1x FPGA 150W

I/O continued

Connectivity	<ul style="list-style-type: none"> mPCI adapters WIFI dual band (2.4GHz – 5 GHz) LoRaWAN 3G/4G/LTE
Mounting options	<ul style="list-style-type: none"> Stand alone 19" 2U Rack mount kit (optional) DIN rail (optional) VESA Wall mount kits (optional)
Dimensions	430 x 290 x 86 mm (L/W/H)

Operational conditions

Standard operating temperature	5 °C to 45 °C with 2x T4 GPUs (41 °F to 113 °F)
Extended operating temperature	0 °C to 48 °C without GPU (32 °F to 118 °F)
Relative humidity	5% to 95% RH
Absolute humidity	During operation: 1 to 29 g/m3 Storage / transport: 1 to 29 g/m3
Air pressure in operation	70 to 106 kPa (conditions in mines are not considered)
Movement of surrounding air in operation	5 m/s
Radiations in operation	Solar: 700 W/m2 Heat: 600 W/m2
Operating Shock	30g half sine, 11 ms duration, 18 events on all 3 axes, IEC 60068-2-27
Non-operating/Transit Shock	50g half sine, 11 ms duration, 18 events on all 3 axes, IEC 60068-2-27
Operating Vibration	Frequency 5-500Hz, 3Grms, IEC 60068-2-64
Non-Operating/transit vibration	Frequency 5-500Hz, 5Grms, IEC 60068-2-64

Ecosystem and certifications

Software ecosystem certifications	OS <ul style="list-style-type: none"> certified: RedHat, VMWare ESXi tested: Ubuntu, Debian, CentOS Cloud connectivity certifications : MS Azure IOT, AWS Greengrass, NVIDIA EGX, Siemens Mindsphere Open Connect
Certification and Compliance for FINAL System	UL/CSA CE(RED, RoHS) FCC/ICES WEEE

BullSequana Edge configuration variations

The following configurations are optimized to run Ipsotek VISuite, the software stack of Atos Computer Vision Platform, on BullSequana Edge.

BSE-MGMT

Optimized for operation as an Ipsotek VISuite Management Node

Memory Configuration	32GB Total 2 x 16GB RDIMM DR 1.2V 2666MT/s
Storage Configuration	2 x 1.921TB SSD
Accelerators	No Accelerators
Operating System	Windows 10 IOT Enterprise LTSC

BSE-DB

Optimised for operation as an Ipsotek VISuite Database Node

Memory Configuration	32GB Total 2 x 16GB RDIMM DR 1.2V 2666MT/s
Storage Configuration	1 x 480GB SSD 1 x 1.921TB SSD
Accelerators	No Accelerators
Operating System	Windows 10 IOT Enterprise LTSC

BSE-1GPU-XX

Optimised for operation as an Ipsotek VISuite Processing Node with a single GPU

Memory Configuration	64GB Total 2 x 32GB RDIMM DR 1.2V 2666MT/s
Storage Configuration	1 x 480GB SSD 1 x 1.921TB SSD
Accelerators	XX Denotes the installed GPU Accelerator. T4 = 1 x NVIDIA T4 GPU A2 = 1 x NVIDIA A2 GPU
Operating System	Windows 10 IOT Enterprise LTSC

BSE-2GPU-XX

Optimised for operation as an Ipsotek VISuite Processing Node with a double GPU

Memory Configuration	64GB Total 2 x 32GB RDIMM DR 1.2V 2666MT/s
Storage Configuration	1 x 480GB SSD 1 x 1.921TB SSD
Accelerators	XX Denotes the installed GPU Accelerator. T4 = 2 x NVIDIA T4 GPU A2 = 2 x NVIDIA A2 GPU
Operating System	Windows 10 IOT Enterprise LTSC

About Atos

Atos is a global leader in digital transformation with 107,000 employees and annual revenue of over € 11 billion. European number one in cybersecurity, cloud and high performance computing, the Group provides tailored end-to-end solutions for all industries in 71 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos is a SE (Societas Europaea), listed on Euronext Paris and included in the CAC 40 ESG and Next 20 Paris Stock Indexes.

The purpose of Atos is to help design the future of the information space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

[Find out more about us](#)
[atos.net](#)
[atos.net/career](#)

Let's start a discussion together



For more information: [atos.net/BullSequanaEdge](#)

Atos is a registered trademark of Atos SE. February 2022.
© Copyright 2022, Atos SE. Confidential Information owned by Atos group, to be used by the recipient only. This document, or any part of it, may not be reproduced, copied, circulated and/or distributed nor quoted without prior written approval of Atos.