Technology | Israel

Leading the race for AI infrastructure services

SDS-AI

To service the AI boom, SDS-AI worked with Lenovo and NVIDIA to build one of the first AI factories in Israel leveraging a high-performance, highly energy-efficient GPU cluster with NVIDIA's accelerated computing, cutting-edge networking, and AI software stack, in combination with Lenovo Neptune® Liquid Cooling technology—enabling advanced workloads, scalable deployment, and seamless innovation for real-world AI applications.

1 Customer background

Who is SDS-AI?

SDS-AI is a spinoff of Schonfeld Data Services (SDS), Israel's largest server farm operator. Founded in 2016, SDS operates seven hyperscale data centers across the country. To meet growing demand for AI services, the company established SDS-AI in 2024.

SDS Data Services

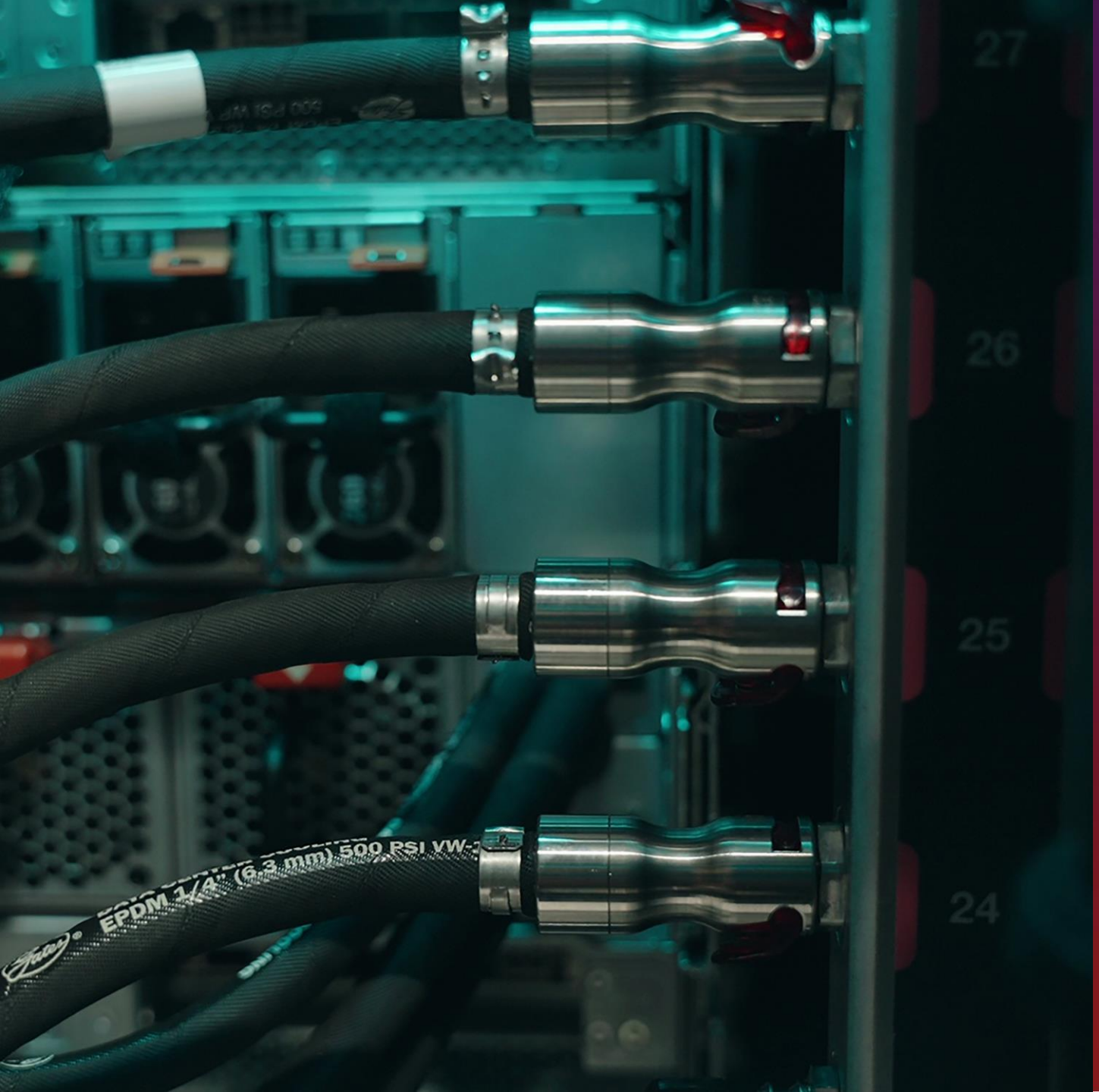
2 The challenge

Already a major player in Israel’s data center services market, SDS is in a prime position to ride the wave of AI adoption.

Danny Bilitski, General Manager & Owner of SDS, begins: “We have the data center infrastructure, the energy resources, the strategic positioning, and the talent to serve the rapidly expanding AI market. In recent years, more and more of our clients have been requesting GPU resources to run training and inference workloads. We identified the need for AI-ready infrastructure.”

2 The challenge

To meet this demand, SDS set out to build the first AI factory in Israel, a specialized computing infrastructure engineered to maximize AI training and inference speed and computational power, while leading the industry in energy efficiency, setting a new standard for performance and sustainability in enterprise AI operations, with a strong emphasis on AI training and inference performance and energy efficiency.



“Israel is a global leader in the AI space. The vision for our AI factory is to widen access to AI infrastructure and to support innovation.”

Danny Bilitski

General Manager & Owner, SDS

3 The solution

Building an AI Factory

The first stage of SDS-AI's AI factory is based on 127 Lenovo ThinkSystem SR780a V3 servers, each equipped with eight NVIDIA® Blackwell GPUs.

The cluster is housed in just 16 compute racks, the high density made possible through Lenovo Neptune® Liquid Cooling, which reduces power requirements by up to 40% compared to conventional air cooling.

The servers are connected to a VAST Data Storage system via NVIDIA Spectrum™ SN5000 Ethernet switches.

Hardware

Lenovo ThinkSystem SR780a V3 accelerated by NVIDIA® Blackwell GPUs
Lenovo Neptune® Liquid Cooling
NVIDIA Quantum-2 InfiniBand Platform
NVIDIA Spectrum™ SN5000 Ethernet switches
VAST Data Storage

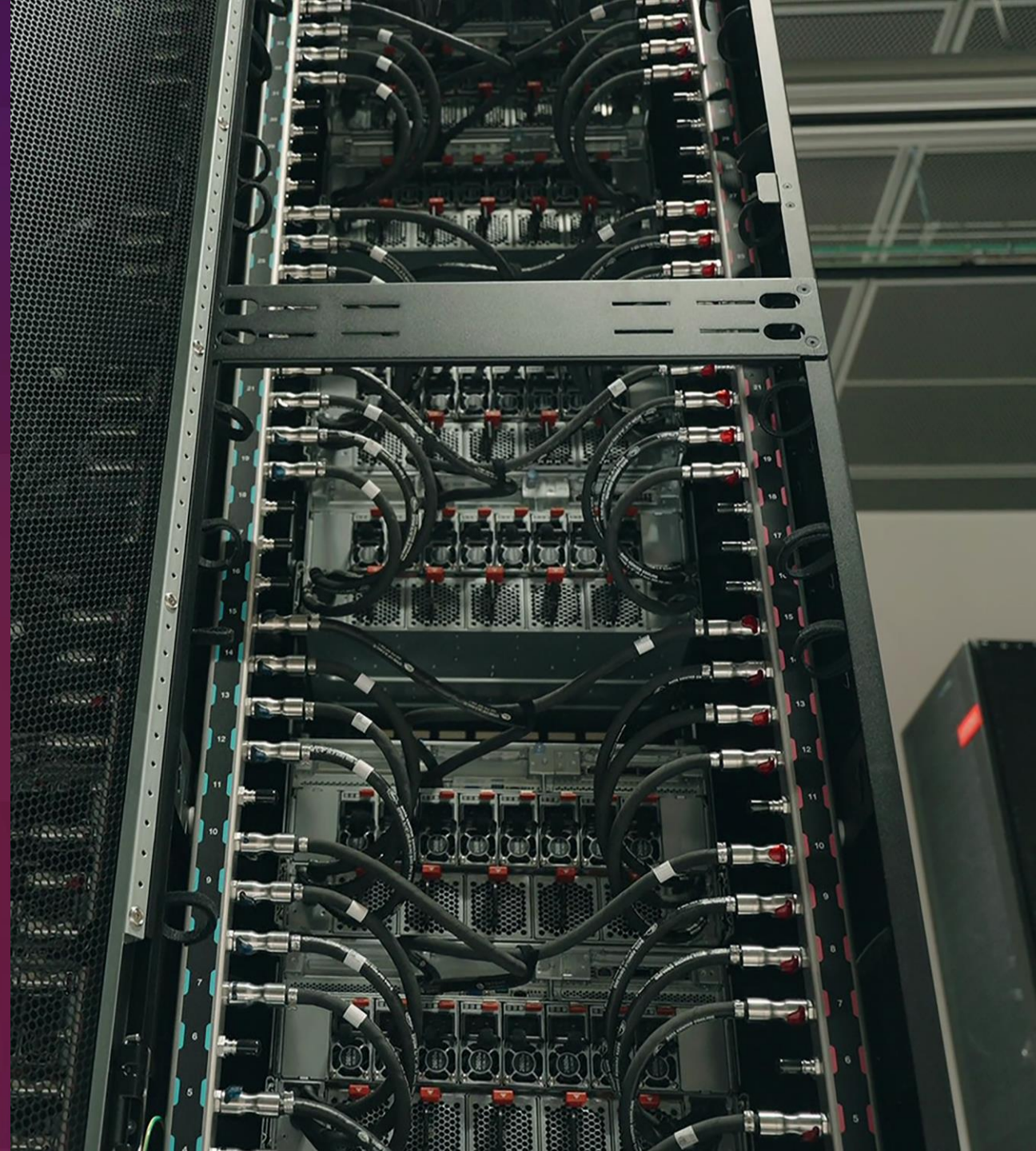
Software

Lenovo Confluent Management Software
NVIDIA Spectrum-X Networking Platform
NVIDIA Unified Fabric Manager Enterprise
Ubuntu operating system for AI and HPC workloads

Services

Lenovo EveryScale
Lenovo Professional Services

Leveraging the latest NVIDIA Blackwell architecture, the cluster's 1,016 GPUs deliver peak performance for AI workloads, including large language models, machine learning, model training, and inference.



3 The solution

Engaging expert support

SDS-AI engaged Lenovo Professional Services to support the design, configuration, and installation of the GPU cluster. The Lenovo EveryScale “Best Recipe” framework guarantees interoperability of hardware, software, and firmware across the Lenovo and third-party components within the cluster. The cluster came pre-integrated, cabled, and racked.

SDS-AI makes extensive use of NVIDIA Unified Fabric Manager Enterprise (UFM) to manage and maintain the networking fabric, as well as Lenovo Confluent Management Software to manage the bootstrap and operation of the ThinkSystem servers.

“We wanted to leverage the latest and greatest technologies for our AI factory, which means **the latest NVIDIA Blackwell GPUs**, the lowest latency, and **liquid cooling** capabilities. Lenovo delivered a solution that ticks all the boxes and **aligns with the NVIDIA Enterprise Reference Architecture for Enterprise AI**.”

Danny Bilitski

General Manager & Owner, SDS

4 The results

With the Lenovo cluster now operational, SDS-AI is one of the first companies in Israel to establish an AI factory, making it a frontrunner in the booming AI infrastructure market.

“Demand for GPU-rich, AI-ready infrastructure is high, and we only expect demand to grow in the coming months and years,” says Bilitski. “Backed by Lenovo and NVIDIA, we can capitalize on that demand.”

- One of the first AI factories in Israel
- High-density, ultra-efficient GPU cluster
- 18.288 ExaFLOPS (FP4 peak) performance

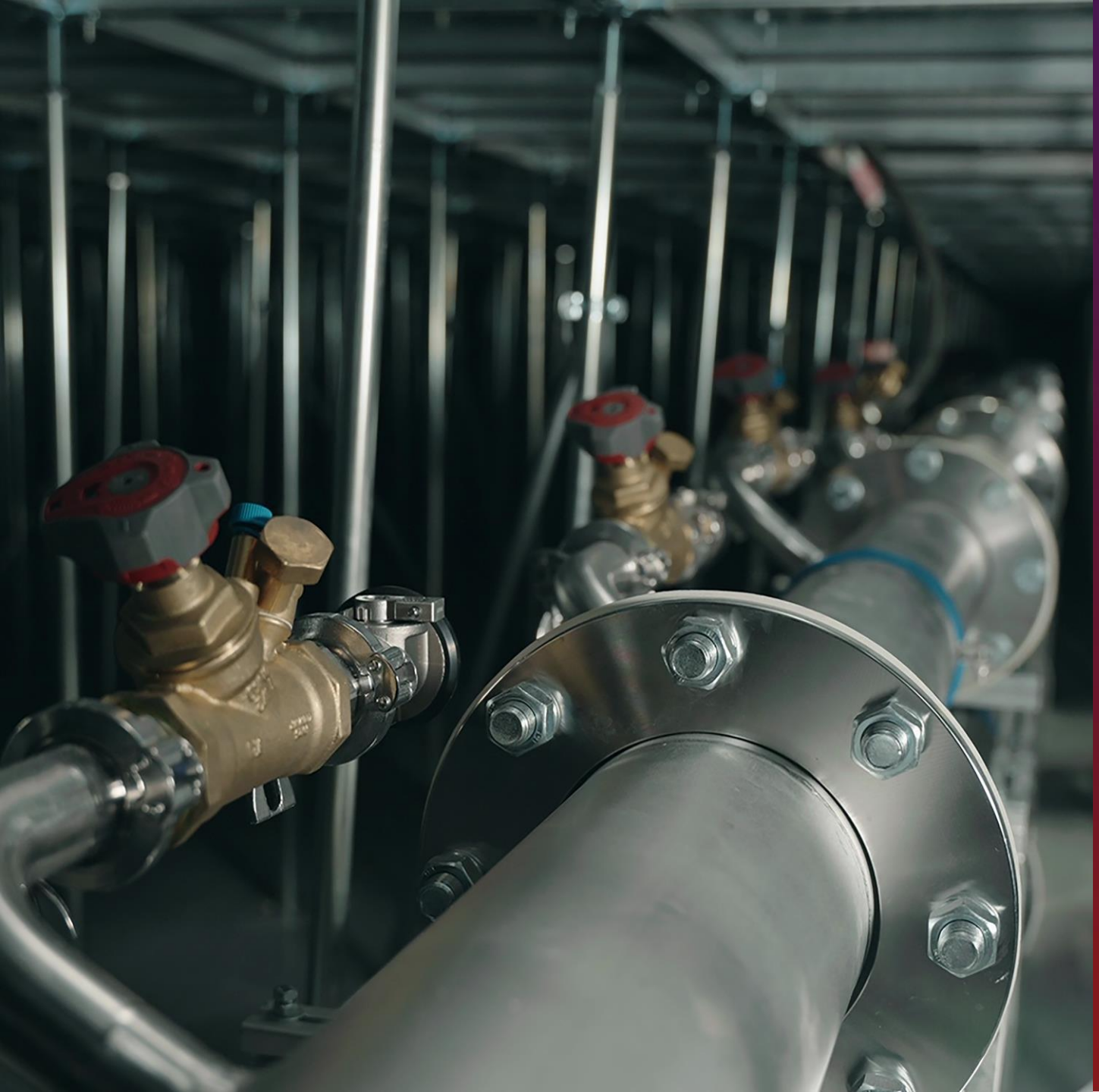
4 The results

High-performance, highly efficient infrastructure

With Lenovo Neptune Liquid Cooling, SDS-AI can host and run clients' demanding AI workloads without compromising on performance. The 1.6 MW cluster delivers 18.288 ExaFLOPS (FP4 peak) performance. 1.3 MW of heat is captured and removed by Lenovo Neptune Liquid Cooling, leaving just 300 KW to remove by air cooling.

"Efficient thermal management enables us to deliver high performance with significantly lower power consumption, enabling us to offer AI infrastructure services efficiently and at competitive prices," notes Bilitski.

Looking ahead, SDS-AI is already planning to expand the cluster with thousands of additional GPUs as demand for its services continues to grow.



> “Partnering with Lenovo and NVIDIA gives us the edge we need to succeed in the AI infrastructure space.”

Danny Bilitski

General Manager & Owner, SDS

Why Lenovo and NVIDIA?

Lenovo and NVIDIA worked closely together to deliver a validated AI factory solution for SDS-AI, with full-stack guidance.

“We were very impressed with the knowledge and technical expertise of the Lenovo team during the initial design phase,” recalls Bilitski. “They helped us to get to grips with the NVIDIA Reference Architecture and came up with a solution that met our expectations in terms of performance and energy efficiency.”

How can data center service providers meet demand for AI-ready infrastructure?

SDS-AI teamed up with Lenovo and NVIDIA to deploy a powerful yet energy-efficient GPU cluster in its new AI factory.

Explore Lenovo Hybrid AI

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