

A person in a dark shirt and pants stands in a server room aisle, looking at a laptop. The room is filled with server racks on both sides, illuminated by blue light. The floor is a metal grating. The background is a bright light source at the end of the aisle.

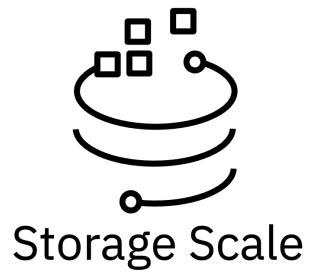
# ARM & NVIDIA Update

**IBM Storage Scale Days 2024**

March 5-7, 2024 | Stuttgart Marriott Hotel Sindelfingen

Ralph Würthner

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# IBM Storage Scale on ARM

- Overview
- Supported Features
- ARM Platforms
- Outlook

# NVIDIA SuperPOD Certification

# Overview

- CPU Architecture developed by ARM Limited, UK
  - No manufacturing, only licensing of IP
- ARM: Advanced RISC Machine
  - RISC Architecture
  - 32 & 64 bit versions available
- Markets
  - Automotive, Computing Infrastructure, Consumer Technologies, and Internet of Things, ...
- Applications
  - Artificial Intelligence, Security, 5G Network Infrastructure, Cloud Computing, Edge Computing
  - **High Performance Computing**, AR/VR/XR, Gaming, Laptops, Smartphones

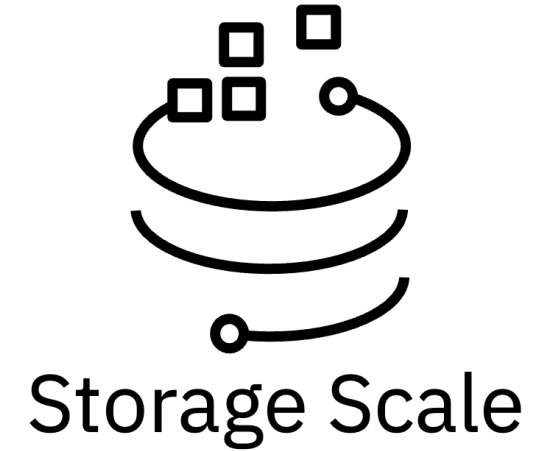


# Overview ARM Neoverse Family

Neoverse Series	Intended Usage	Level	Instruction Set	Examples
Neoverse N-series (scale out performance)	data center usage	N1	ARMv8.2-A	Ampere Altra (2-socket 80 cores) AWS Graviton2 (64 cores)
		N2	ARMv9.0-A	
Neoverse E-series (efficient throughput)	edge computing	E1	ARMv8.2-A	
		E2	ARMv9.0-A	
Neoverse V-series (max performance)	high performance computing	V1	ARMv8.4-A	AWS Graviton3 (64 cores)
		V2	ARMv9.0-A	Nvidia Grace (144 cores)
A64FX, Fujitsu	HPC		Armv8.2-A + SVE	Supercomputer Fugaku

# IBM Storage Scale on ARM

- IBM Storage Scale 5.1.9
  - Technical Preview
- IBM Storage Scale 5.2.0
  - General Availability



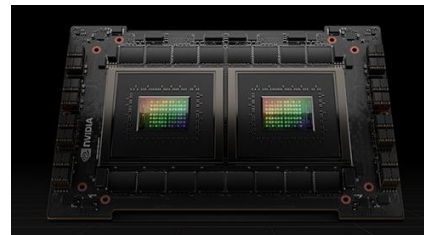
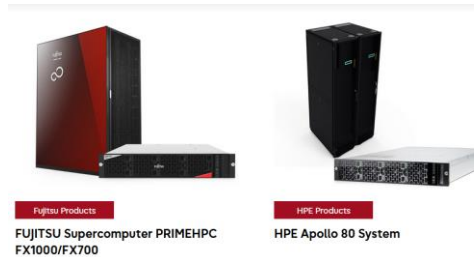
# Supported Features with 5.2.0

- IBM Storage Scale client
  - Servers with ARMv8.2-A CPUs or higher
- OS Support
  - RHEL 9, Ubuntu 22.04
  - 4k & 64k page size
- Included features
  - POSIX I/O
  - GPUDirect Storage
  - RDMA, Policies, AFM, remote mounts, snapshots, quotas, file audit logging, watch folders, ...
- Excluded features
  - NSD server (traditional, ECE, SNC)
  - Protocols, BDA / HDFS
  - CNSA

# ARM Platforms

IBM Storage Scale is running on the following platforms:

- Ampere Altra
- Fujitsu A64FA
- Nvidia Grace / Grace Hopper
- Nvidia BlueField 3 DPUs
- Amazon Graviton in Amazon EC2
- Raspberry Pi 4 :-)





# Under consideration for future releases

- NSD Server Support
- RHEL 8 Support
- Erasure Code Edition

# NVIDIA SuperPOD Certification

- IBM Storage Scale System 3500 All-flash system is an approved solution for DGX A100 and DGX H100 SuperPOD deployments
  - The ESS 3500 is rated for storage performance level „best“
- Certification for IBM Storage Scale System 6000 is pending
  - Performance measurements completed
  - Results under review by NVIDIA



Date: September 20<sup>th</sup>, 2023

## DGX SuperPOD H100 and IBM Storage

IBM Storage Scale System 3500 All-flash systems with GPFS is an approved solution for DGX A100 and DGX H100 SuperPOD deployments.

Please let me know if you have any other questions.

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Sr. Director Product Management  
DGX Systems and Solutions



# Ralph Würthner

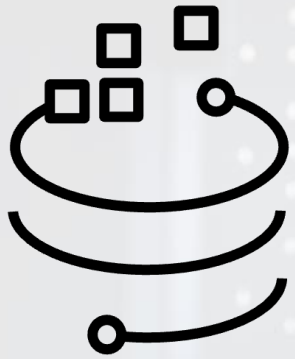
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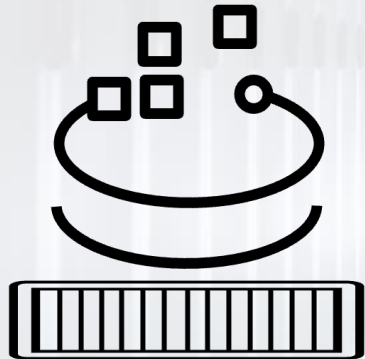
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