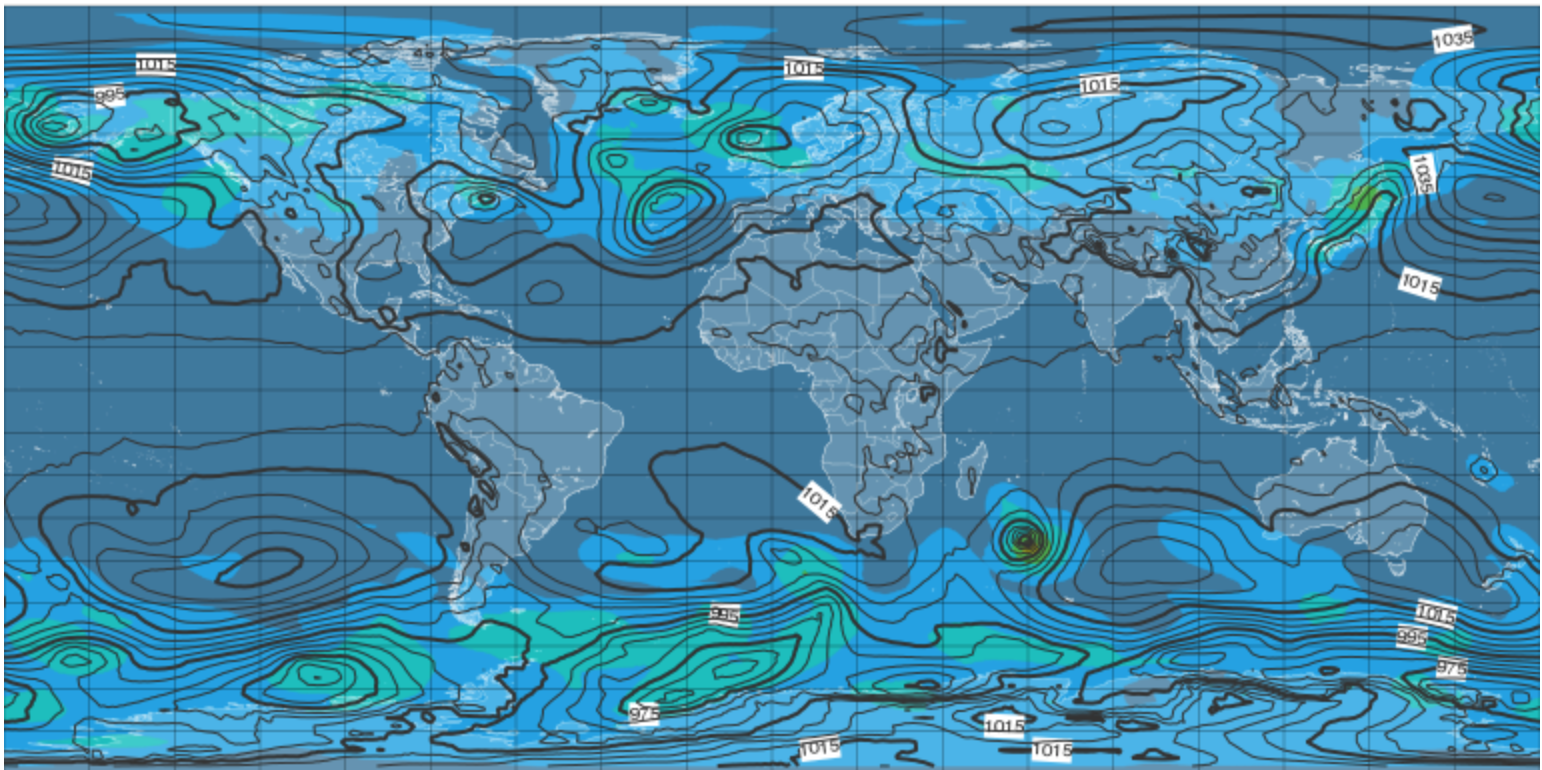
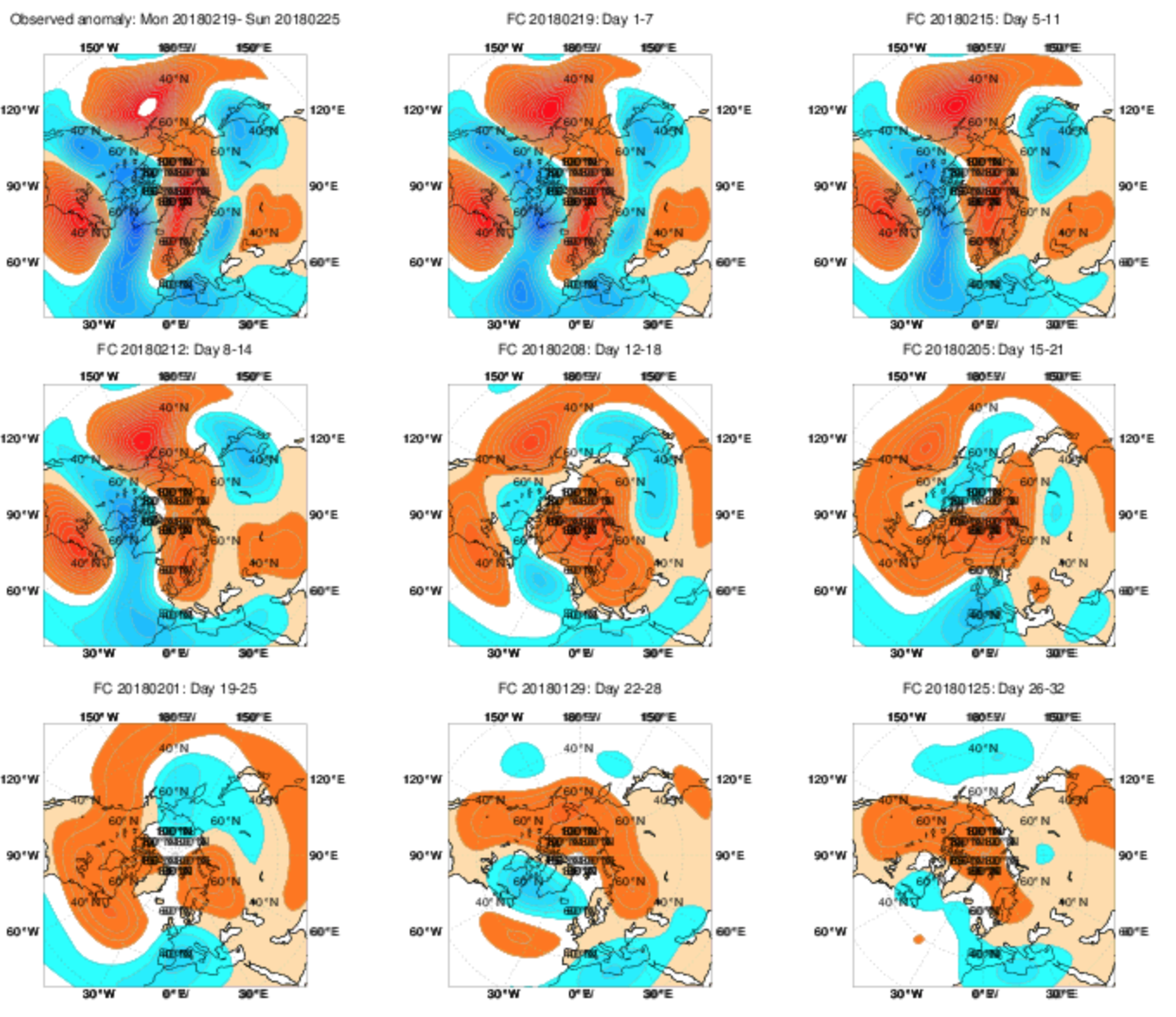
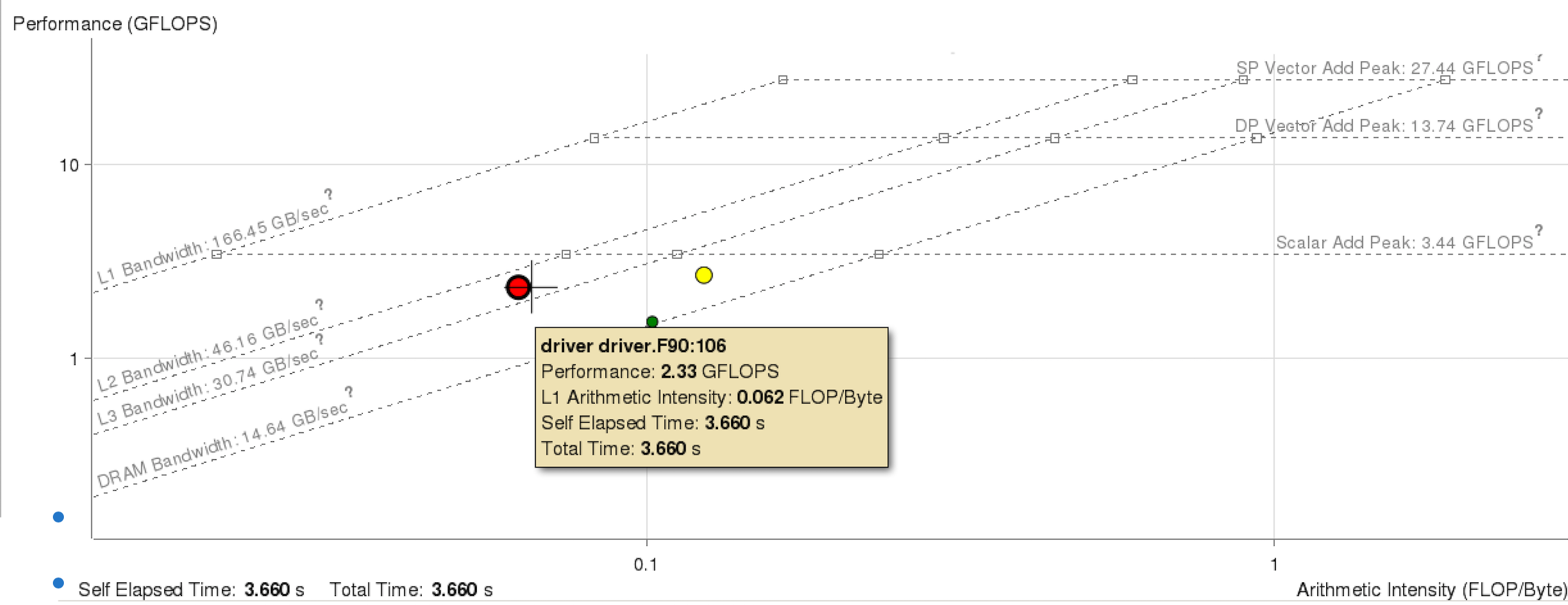
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| Isambard |
| * Tier 2 Supercomputer - The first ARM HPC cluster, it will have over 10.000 ARMv8 cores. * Two Thunderx2 x 32 cores per node * Incorporates multiple architectures: x86 (Broadwell), XeonPhi, Nvidia Pascal GPUs |

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| Background - ECMWF |
| * IFS – Integrated Forecasting System – provides medium (10 days) to long range (6 months) forecasts. * OpenIFS - Open source version of IFS, lacks a few of the IFS features * ESCAPE dwarfs – smaller, stand-alone programs, the building blocks for IFS * Most codes are memory bound |

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| Aims |
| * Exploring how well the code works out of the box, the higher bandwidth provided by Thunderx2 should lead to better performance compared to Broadwell * Comparing different compilers (Cray, Intel, GNU, ARM HPC) * Comparing vectorisation levels (AVX vs NEON vs SVE) * Potential benefits of HBM-style memories on future CPUs |

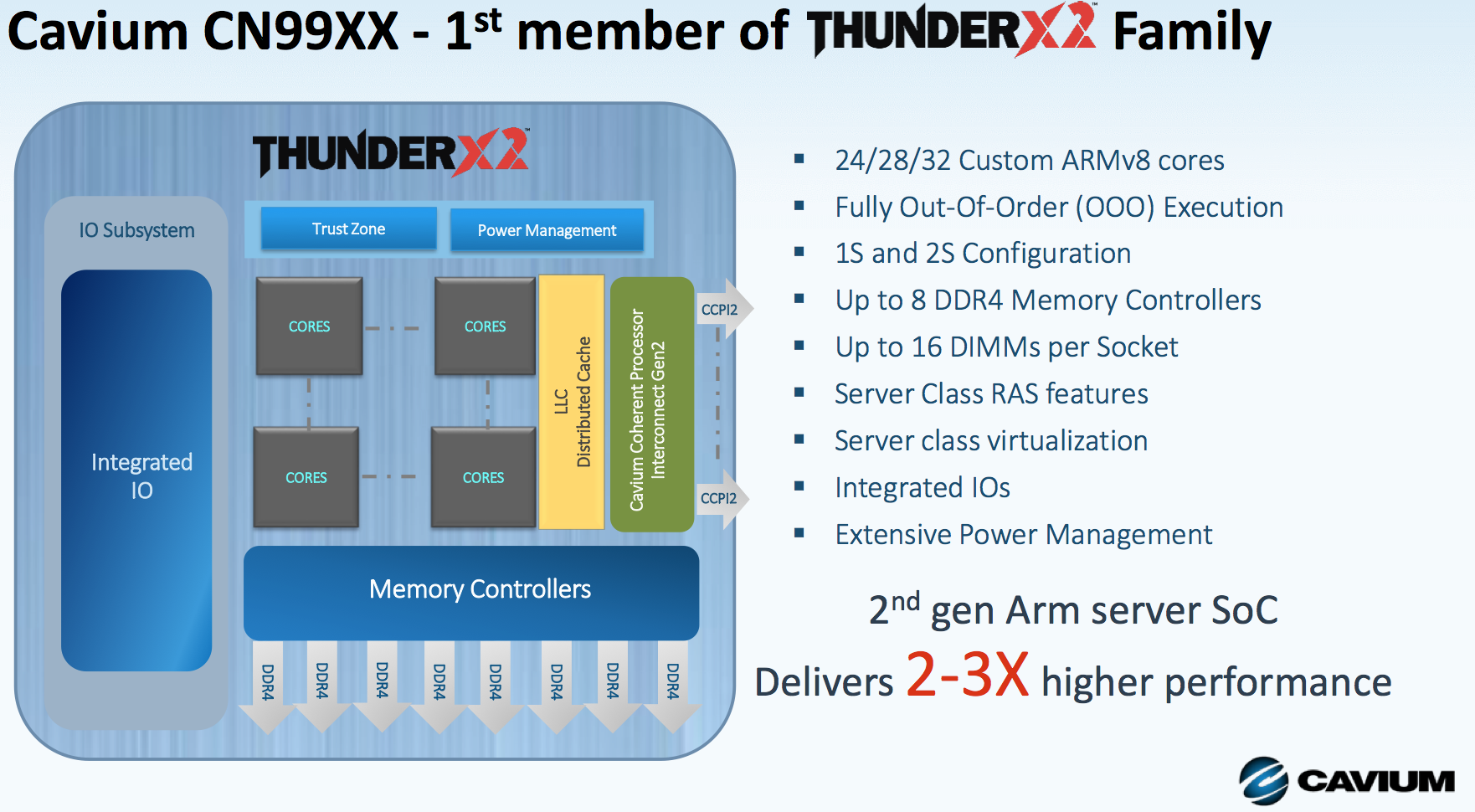
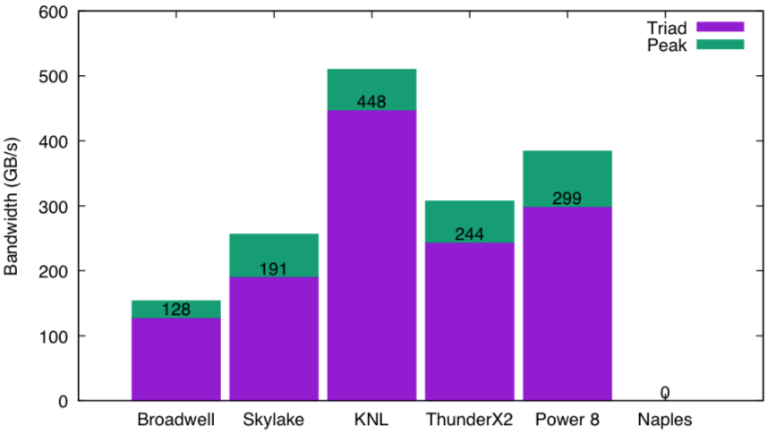
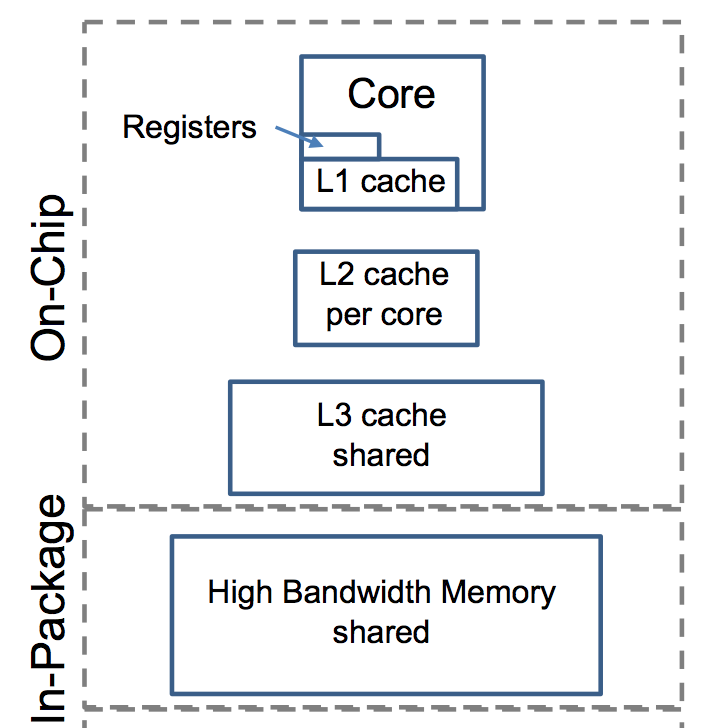


Weather Forecasting Performance Analysis on Isambard

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| Issues |
| * ARM nodes availability – offline for 3 week at the moment * Compilation issues on ARM when using the Cray and ARM HPC compilers |



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| Progress |
| * Obtained runtime analysis, roofline models for a subset of the ESCAPE dwarfs * Starting building OpenIFS on Isambard |