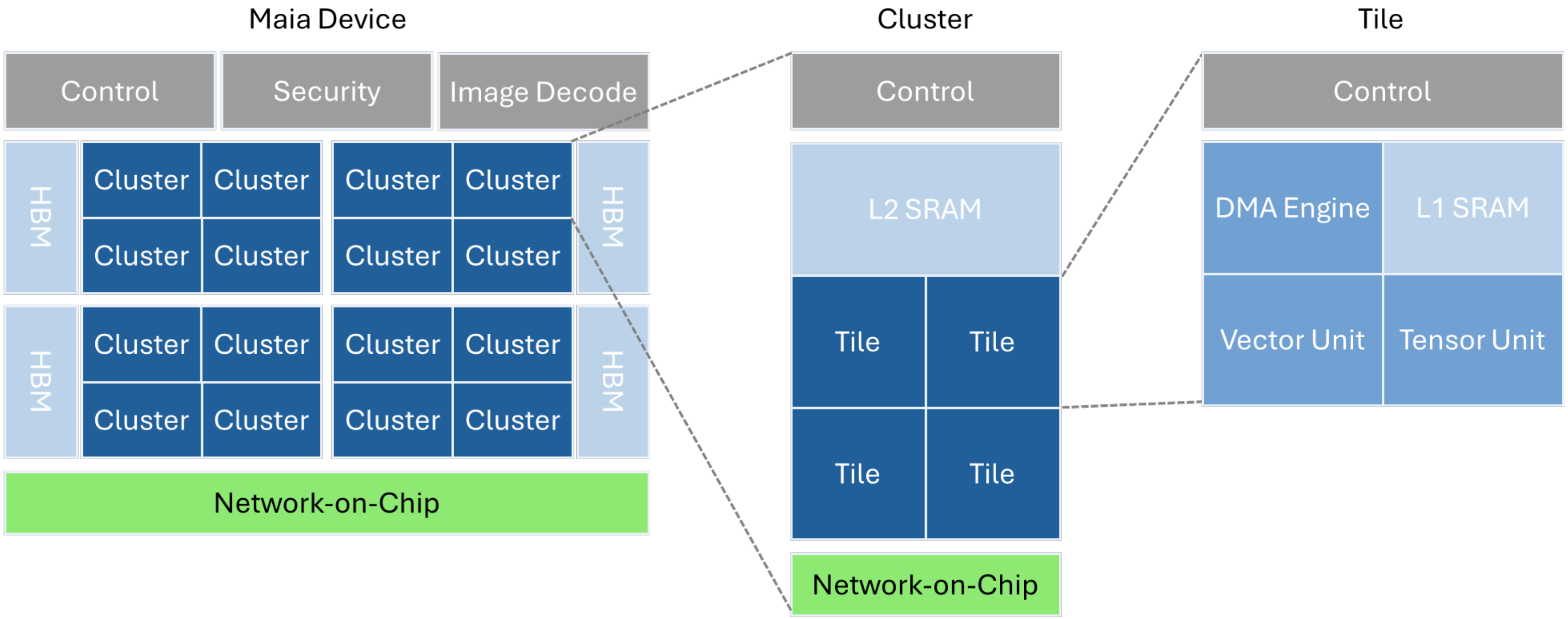
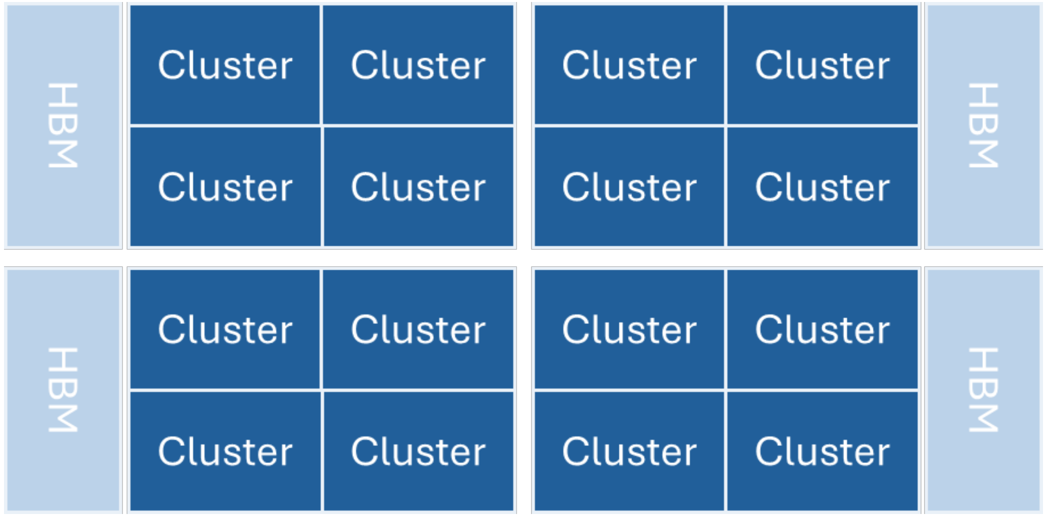
Triton for Azure Maia

Ian Baird

Maia-100 Device Architecture



Triton for Maia-100



HBM Cluster Cluster Cluster Cluster HBM

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Compiler Responsibilities

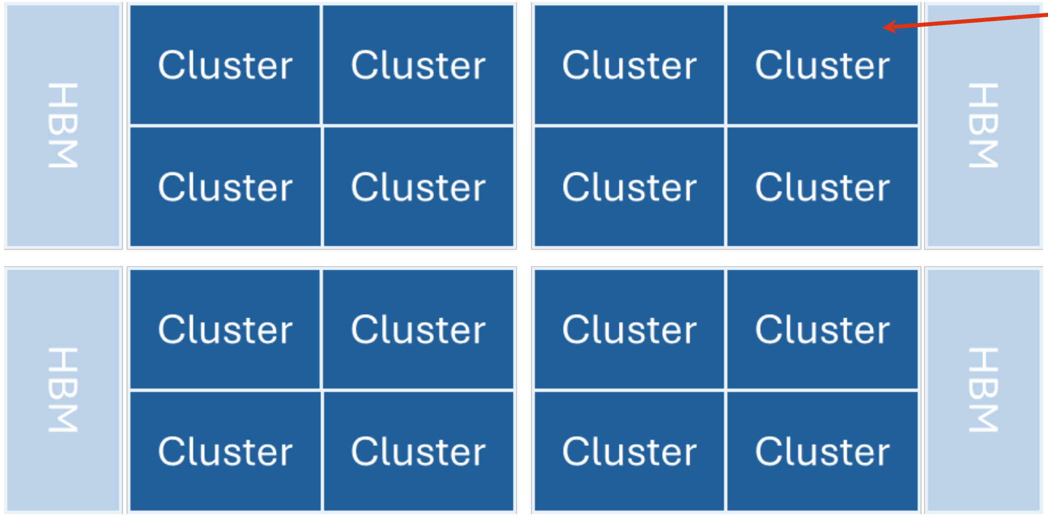
Splitting cluster work among tiles, optimize tile performance

Maia processor orchestration, semaphore management

Data movement in memory hierarchy, overlap copy and compute

Optimal codegen

Triton for Maia-100



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@triton.jit
def matmul_kernel( … ):
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tl.program_id(axis=0)
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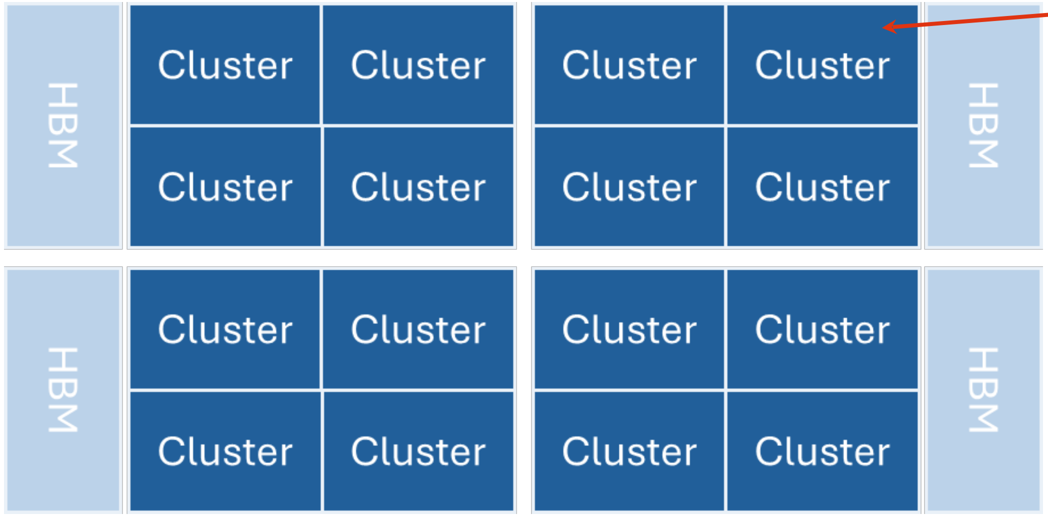

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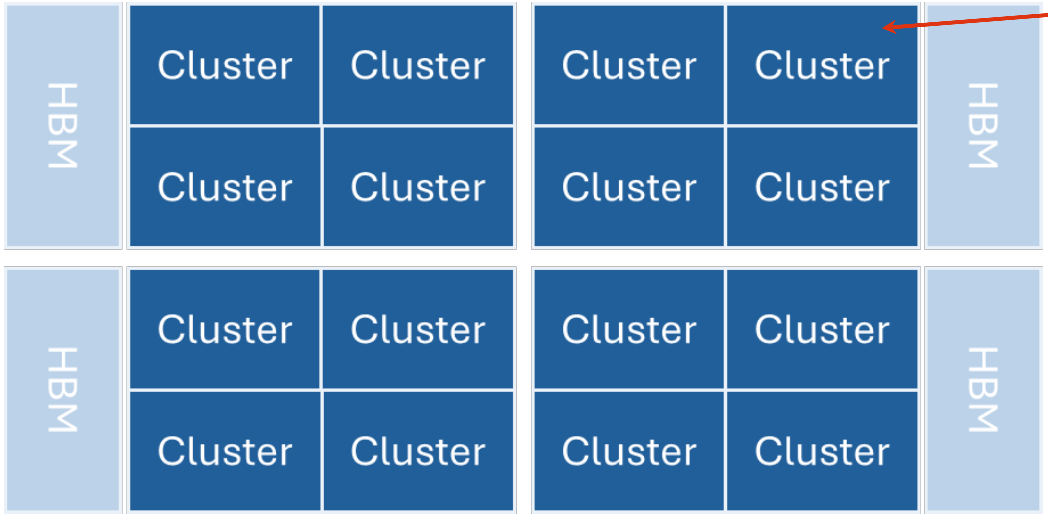

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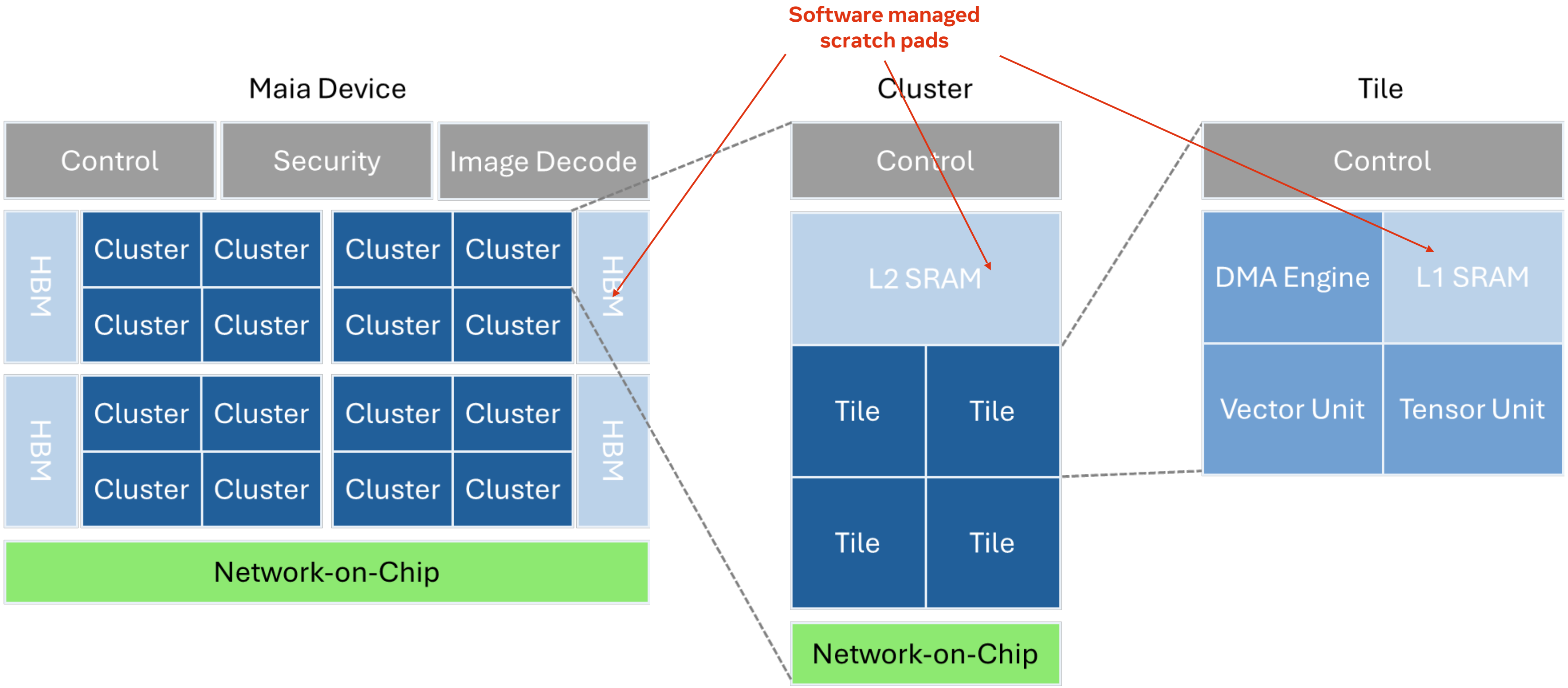
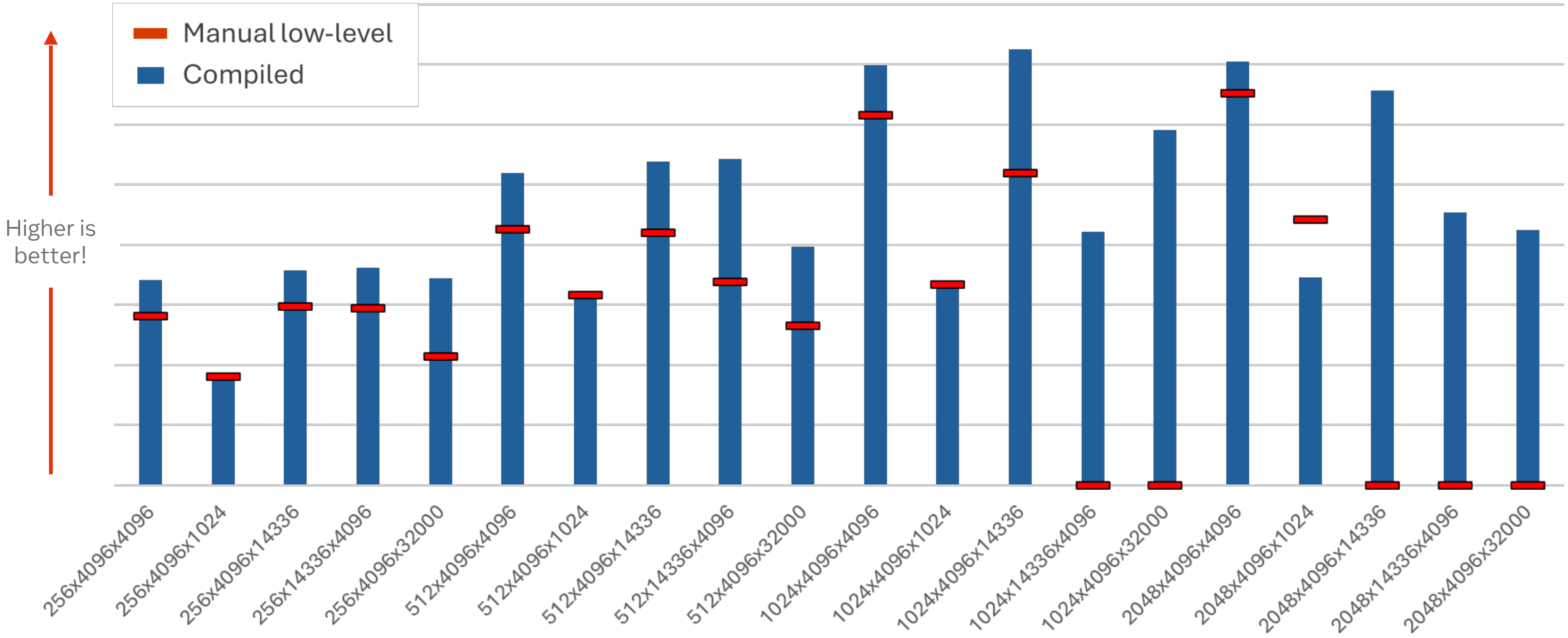


Matmul Performance on Mistral 7B Shapes



Thank you!