



Flash Memory Summit

3D ReRAM Technology Perspective

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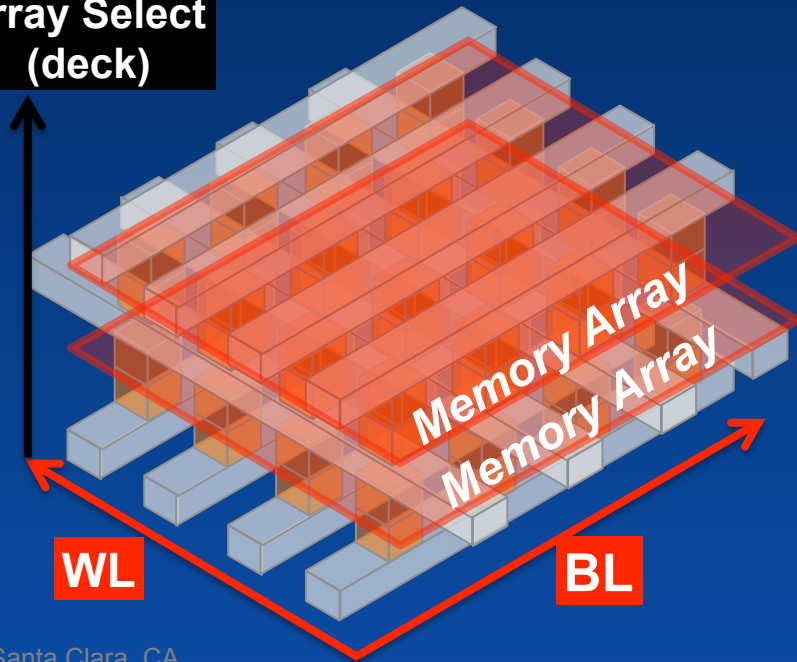
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Cross Point and 3D Vertical

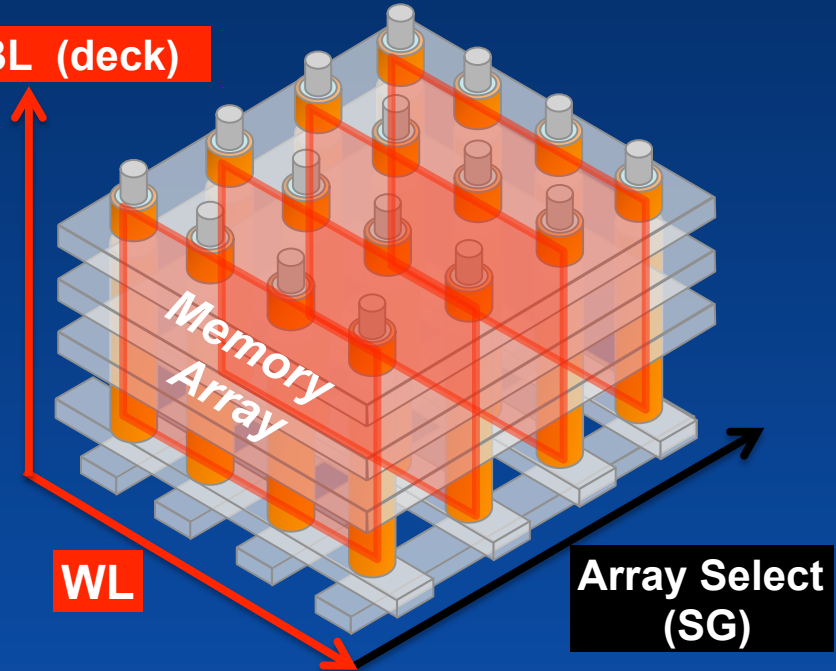
Horizontal XP (Cross Point)

3D Vertical XP

Array Select
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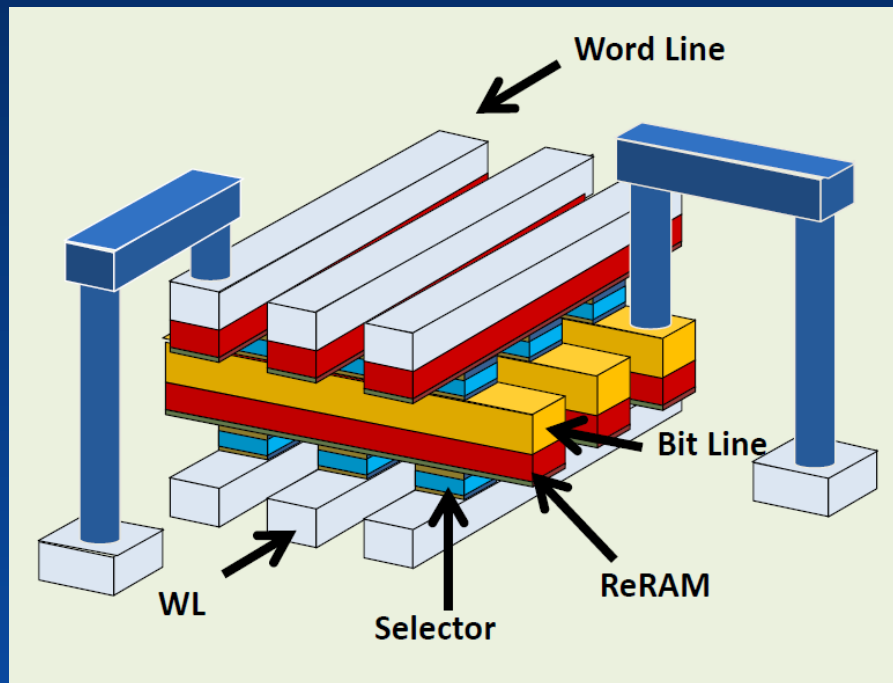
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Cross Point Perspective



SSD based on cross point type of PCM technology has been manufactured and shipped.

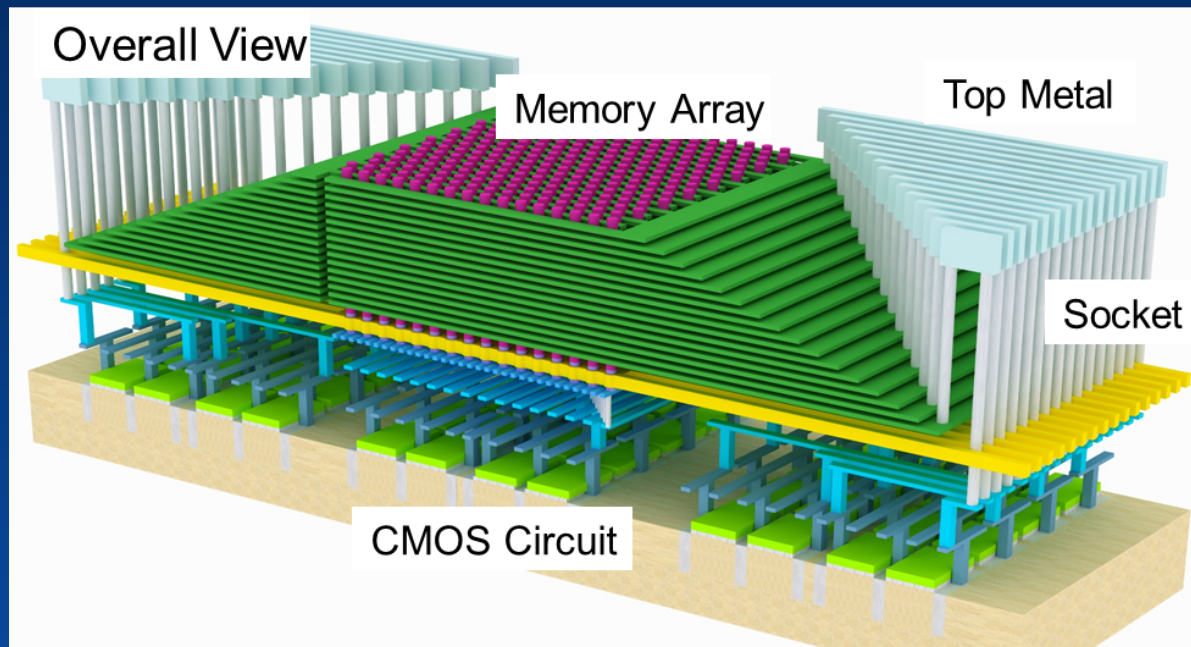
Cross point ReRAM will chase it. Basically two key technologies are selector and cross point structure process.

The applications are a high performance storage and a persistent memory module.



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3D Vertical Perspective



Cost Merit:
The process steps of Vertical type for stacked direction shall be lower than Cross Point

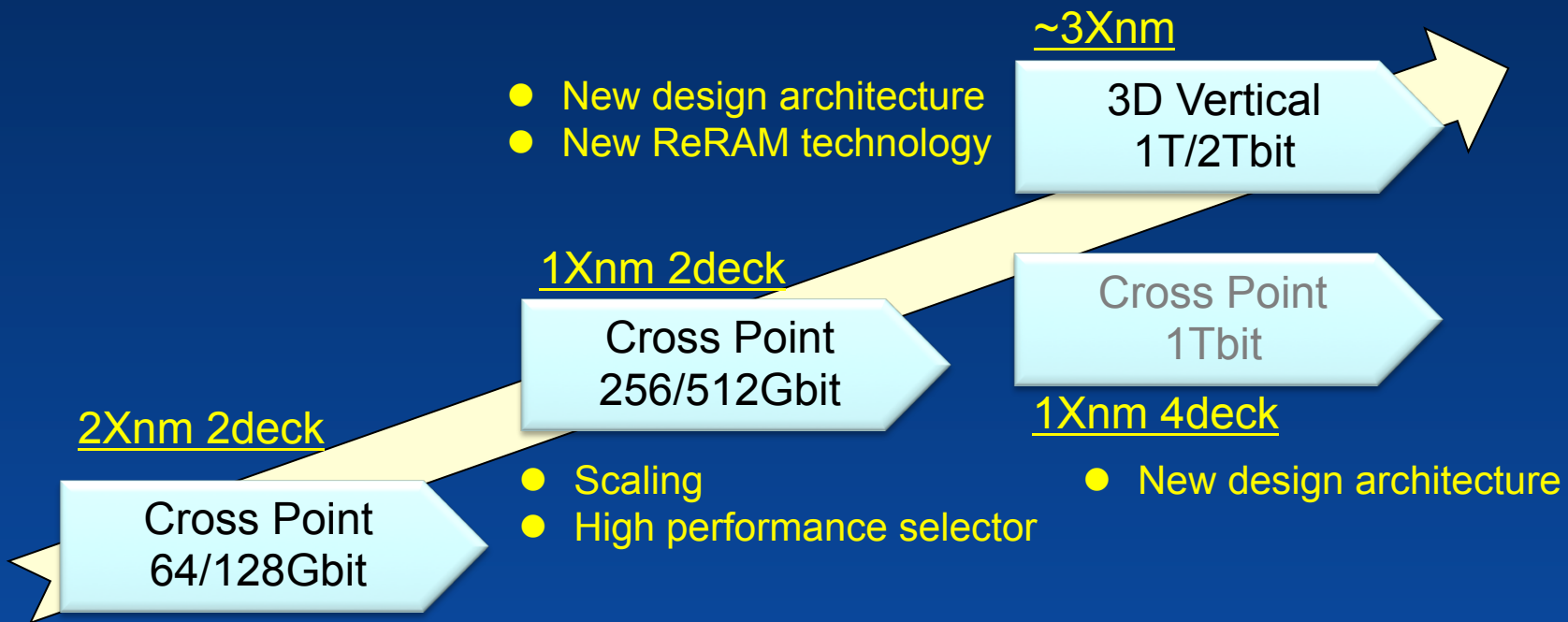
Performance Demerit:
Long interconnection in WL makes latency longer due to big load capacitance

As scaling problem of 3D NAND, better candidate technology



Roadmap and Subjects

Cost Merit





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Summary

- Cross point ReRAM is now chasing cross point PCM
- There are horizontal and vertical type of XP ReRAM technology
- 3D vertical ReRAM technology will be needed as higher density solution for the future
- Horizontal XP ReRAM technology will meet high performance storage or persistent memory application