

# OPEN POSSIBILITIES.

## Yosemite V3: The Next Generation of Modular Servers



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# Yosemite V3: The Next Generation of Modular Servers

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# Agenda



SERVER

3<sup>rd</sup> Generation Improvements

Current YV3 OCP solutions

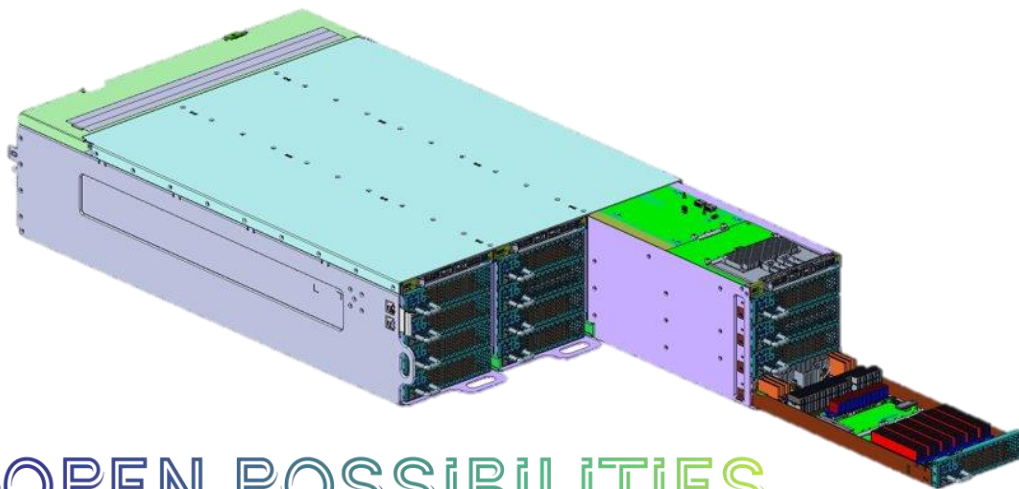
Future YV3 Contributions

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# Overview of Yosemite V3

- Blade: Single socket CPU server board
- Sled: 4 blades + shared management board + shared NIC
- Chassis: enclosure for 3 sleds
- Rack: 8 chassis + power + TOR switch



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Type 1 - 24 Sleds - Yosemite V3			
U41	Air Baffle		U41
U40	TOR		U40
U39	Air Baffle		U39
U38	Yosemite V3	Yosemite V3	U38
U37	Yosemite V3	Yosemite V3	U37
U36	Yosemite V3	Yosemite V3	U36
U35			U35
U34			U34
U33	Yosemite V3	Yosemite V3	U33
U32	Yosemite V3	Yosemite V3	U32
U31			U31
U30	Power Shelf		U30
U29			U29
U28			U28
U27			U27
U26	Yosemite V3	Yosemite V3	U26
U25	Yosemite V3	Yosemite V3	U25
U24			U24
U23			U23
U22	Yosemite V3	Yosemite V3	U22
U21	Yosemite V3	Yosemite V3	U21
U20			U20
U19			U19
U18	Yosemite V3	Yosemite V3	U18
U17	Yosemite V3	Yosemite V3	U17
U16			U16
U15			U15
U14	Yosemite V3	Yosemite V3	U14
U13	Yosemite V3	Yosemite V3	U13
U12			U12
U11	Power Shelf		U11
U10			U10
U9			U9
U8			U8
U7	Yosemite V3	Yosemite V3	U7
U6	Yosemite V3	Yosemite V3	U6
U5			U5
U4			U4
U3	Yosemite V3	Yosemite V3	U3
U2	Yosemite V3	Yosemite V3	U2
U1			U1



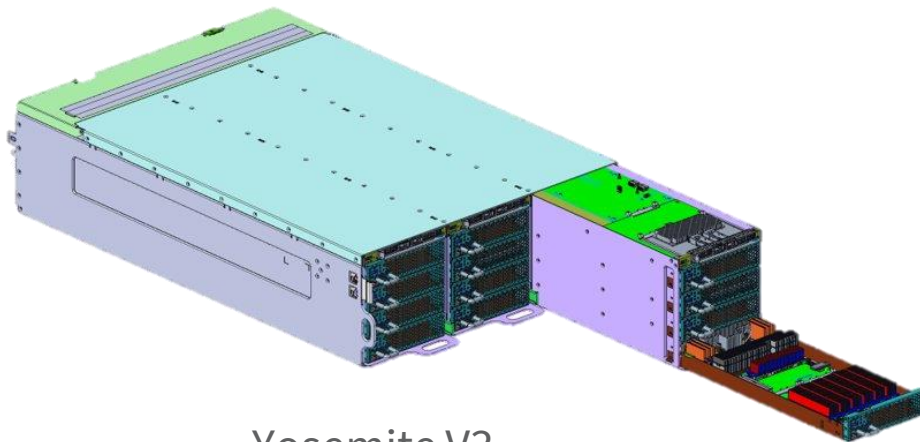
SERVER

# 3<sup>rd</sup> Generation Improvements

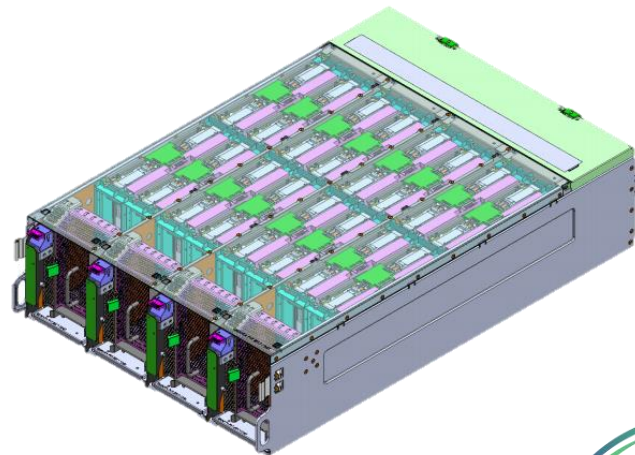
- All systems are independently front serviceable
- Larger blade is full chassis length, 1/3 OU width, 10U height
- Expansion available while keeping the same blade quantity
- Reduction from 16 -> 12 Blades for thermal/power optimization



SERVER



Yosemite V3



Yosemite V2

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Delta Lake (Base Configuration)

Yosemite v3 Cubby

Yosemite v3 Sled

Vernal Falls

Kings Canyon Gen 2

Sierra Point

Glacier Point v3

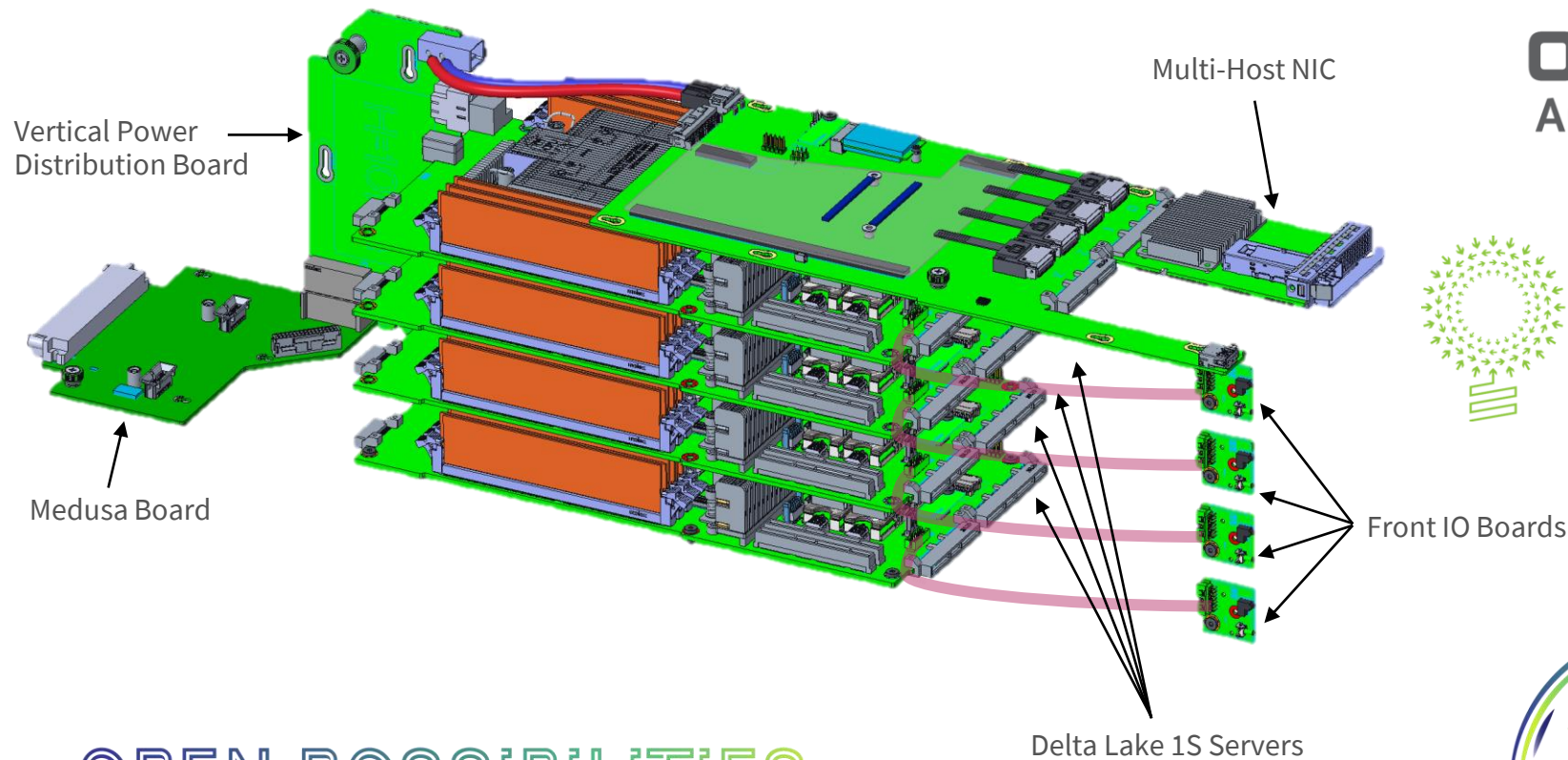
Discovery Point

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# Compute Only Server



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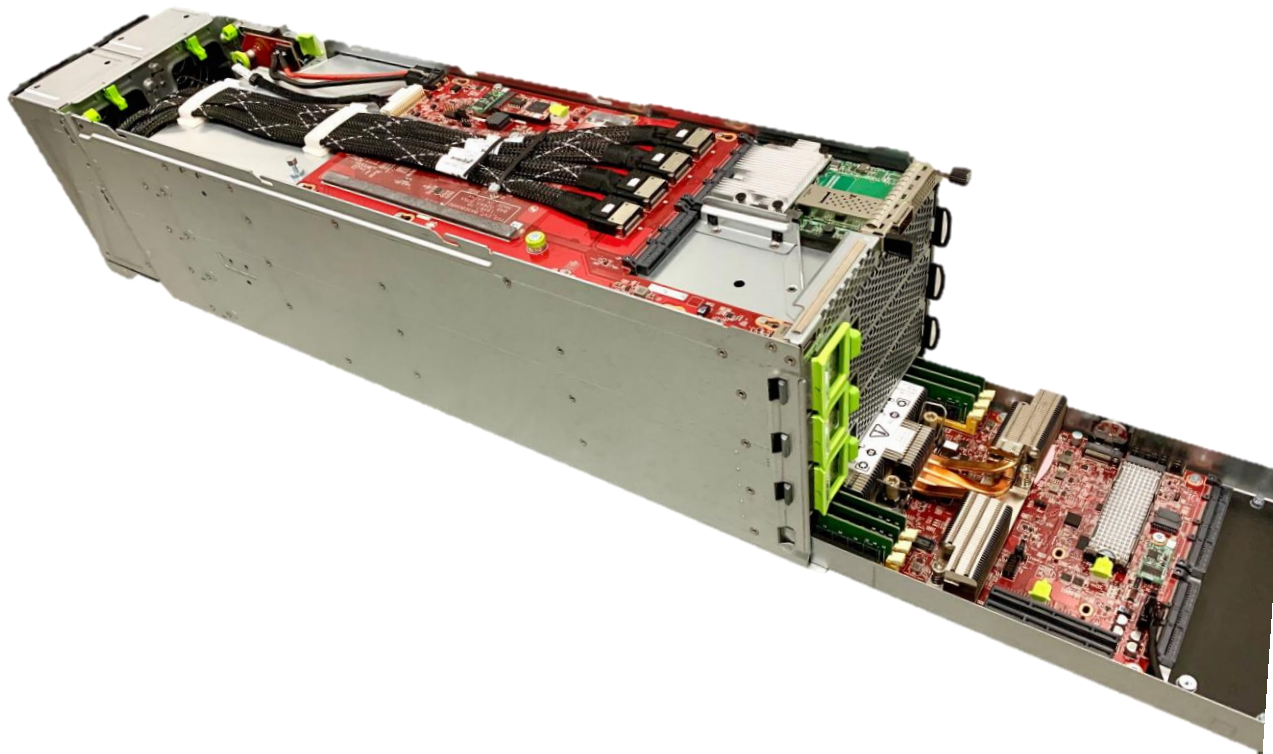
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# Compute Only Server in Sled



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# Future YV3 Contributions

- Multiple Storage Expansion Options
- Single Host NIC options available
- Dual M.2 Accelerator configuration available
- CEM card adapter for Head Node usage

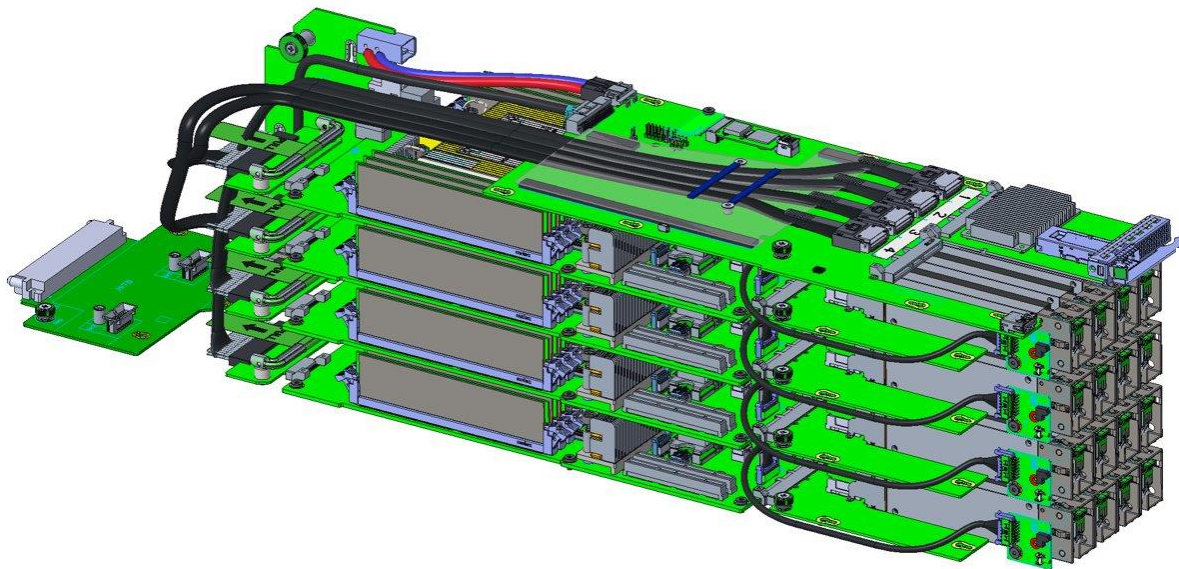


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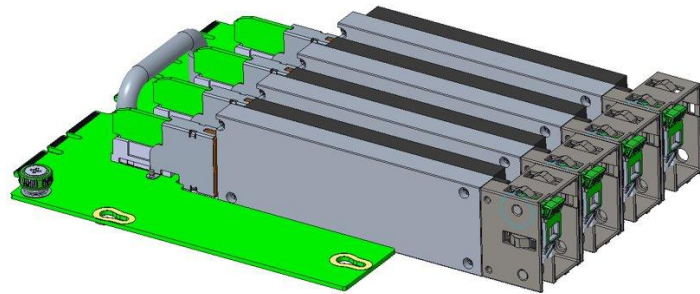
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# YV3 + Vernal Falls (10U E1.S)



4x 10U E1.S Storage Sled Configuration



Vernal Falls

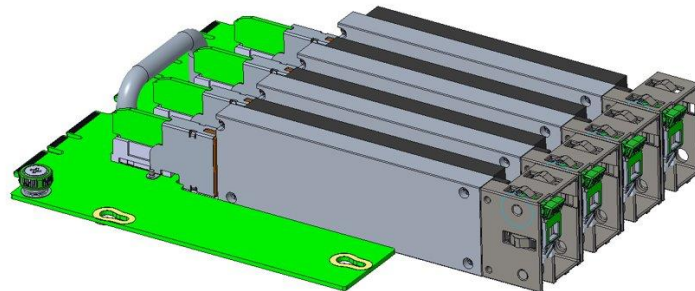
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# YV3 + Vernal Falls (10U E1.S)



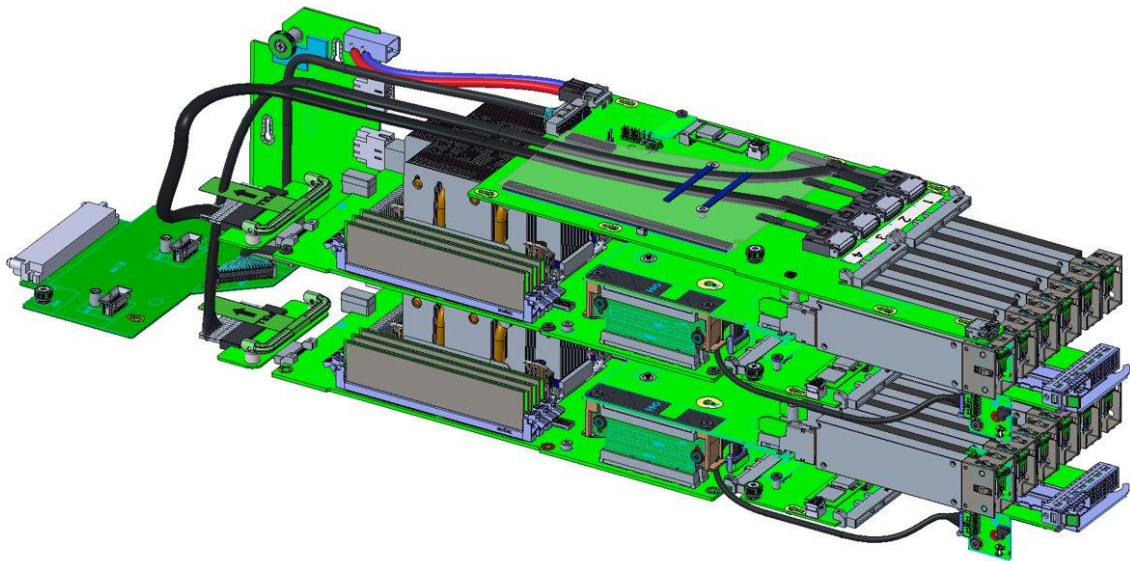
4x 10U E1.S Storage Sled Front View

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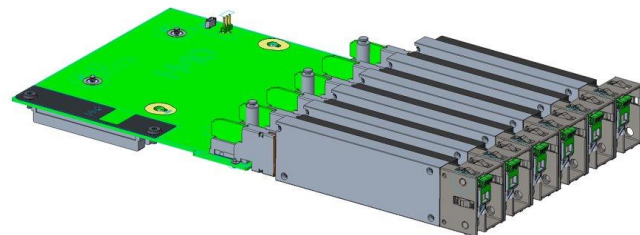


Vernal Falls expansion card

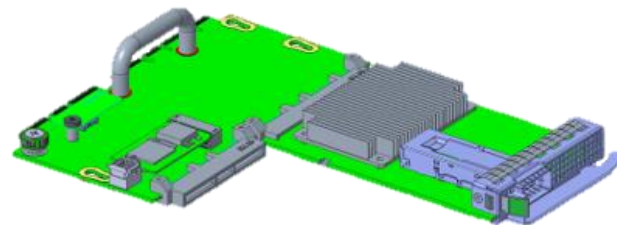
# YV3 + Sierra Point + NIC Expansion(20U E1.S)



2x 20U E1.S Storage Sled Configuration



Sierra Point



NIC Expansion + SH NIC

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# YV3 + Sierra Point + NIC Expansion(20U E1.S)

Server with NIC  
Expansion card  
and  
Sierra point with  
6 E1.S drives

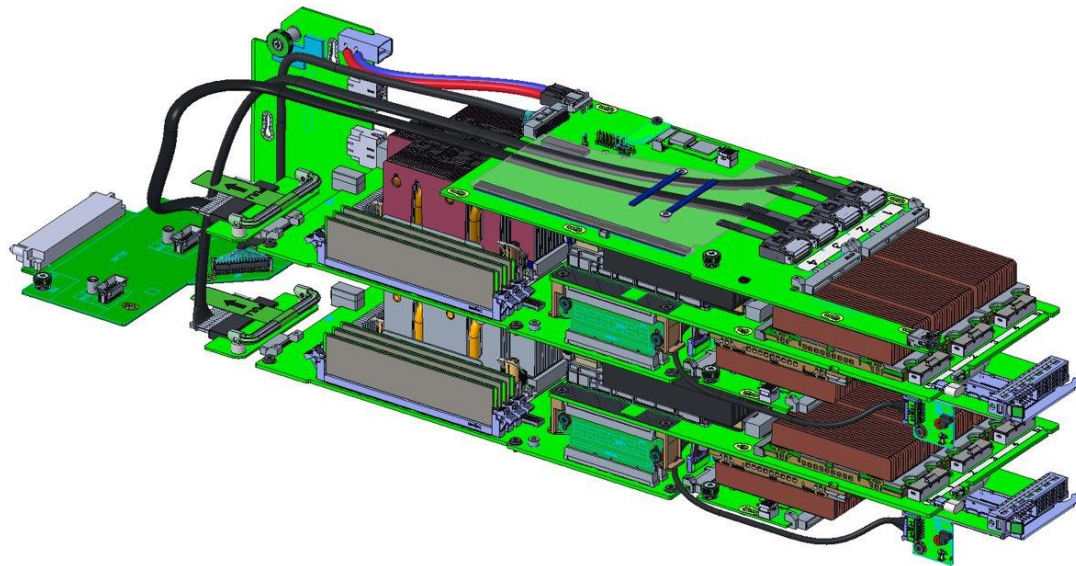


2x 20U E1.S Storage  
Sled Front View

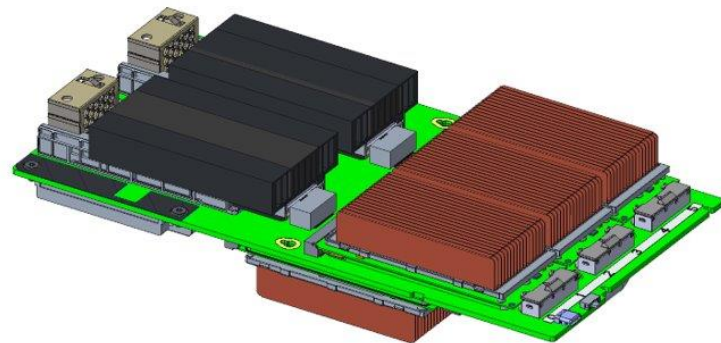
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# YV3 + Glacier Point V3 (20U M.2)



2x 20U M.2 Accelerator Sled Configuration

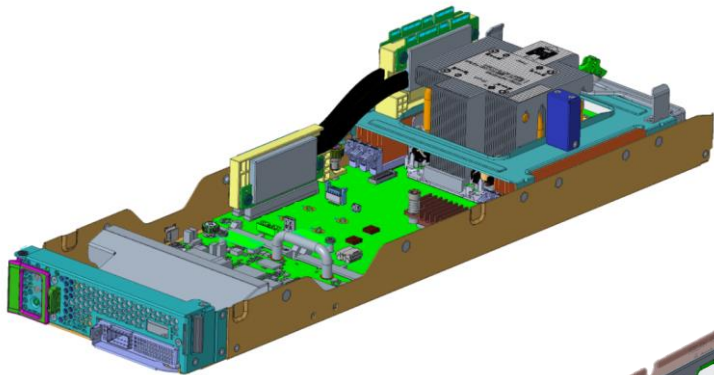


Glacier Point V3

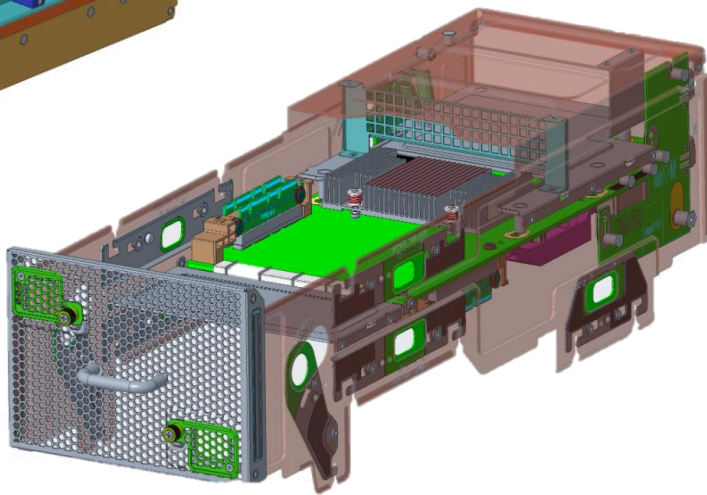
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# Kings Canyon Gen2

YV3 + Switch+2x Glacier Point V3 (40U M.2)



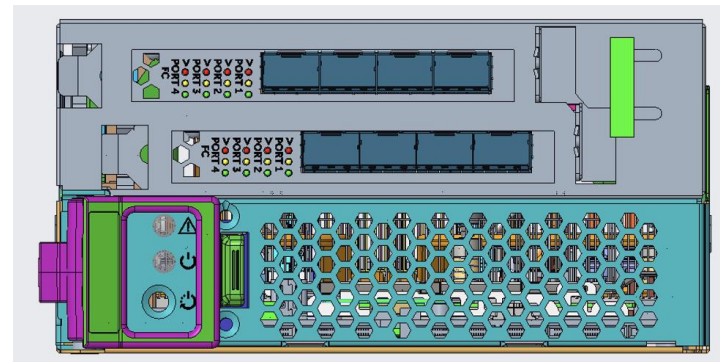
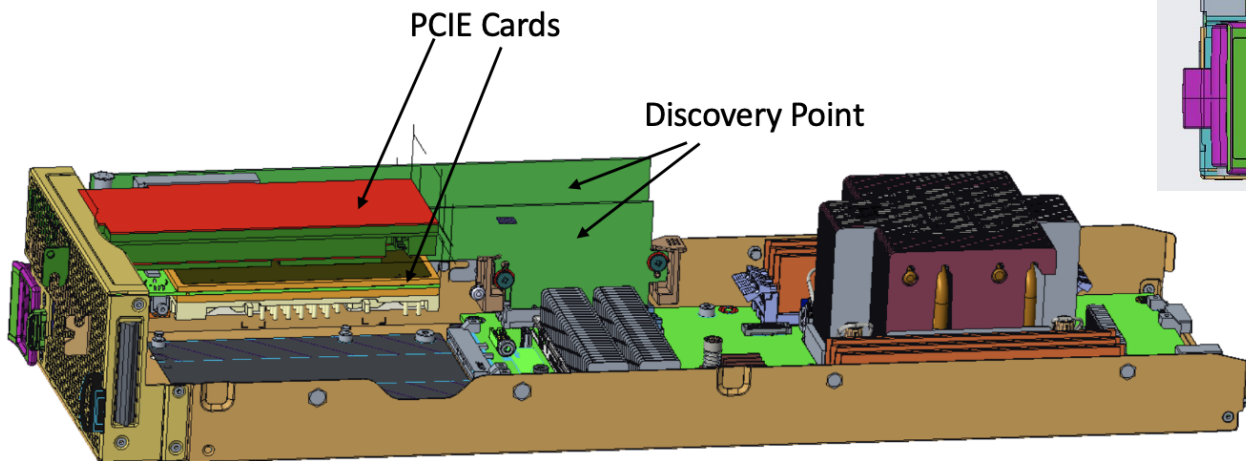
1x 40U dual M.2  
Accelerator Sled  
Configuration



Front View

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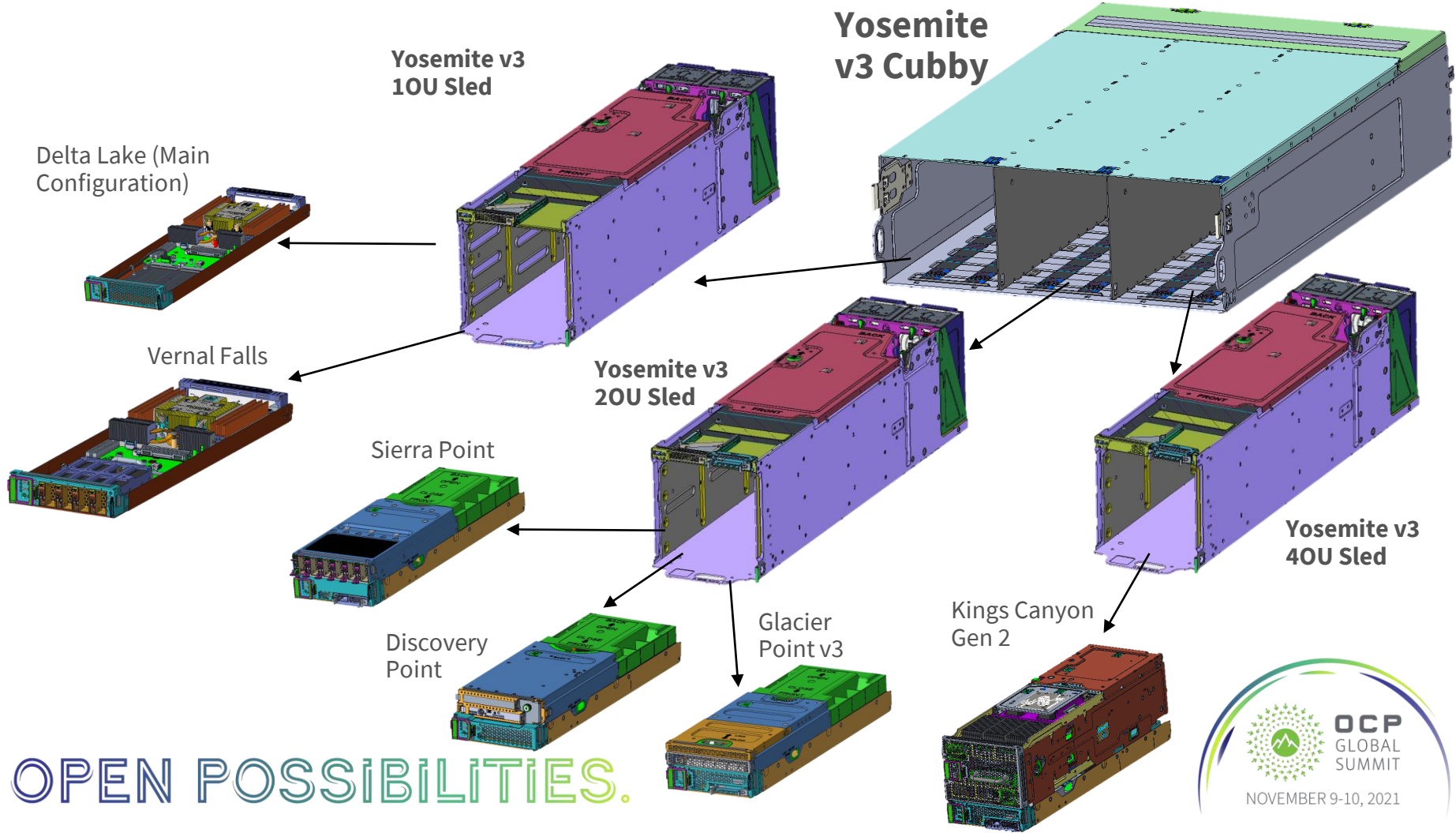
# YV3 + Discovery Point (20U CEM adapter)



Front View

20U PCIe CEM cards with Discovery Point

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# Yosemite V3 Summary

- Versatile, flexible platform for multiple use cases
- Leverage of design and ease of service
- Shared BMC and NIC for better TCO
- Improved airflow per blade



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# Call to Action

- Product Specifications located here:
  - [Yosemite V3 Specification](#)
  - [Delta Lake 1S Server Specification](#)
- Additional Yosemite V3 Information is located on the FB Engineering Blog:
  - <https://engineering.fb.com/>
- Where to Buy
  - <https://www.opencompute.org/products> (Wiwynn submission in process)

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Thank you!



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