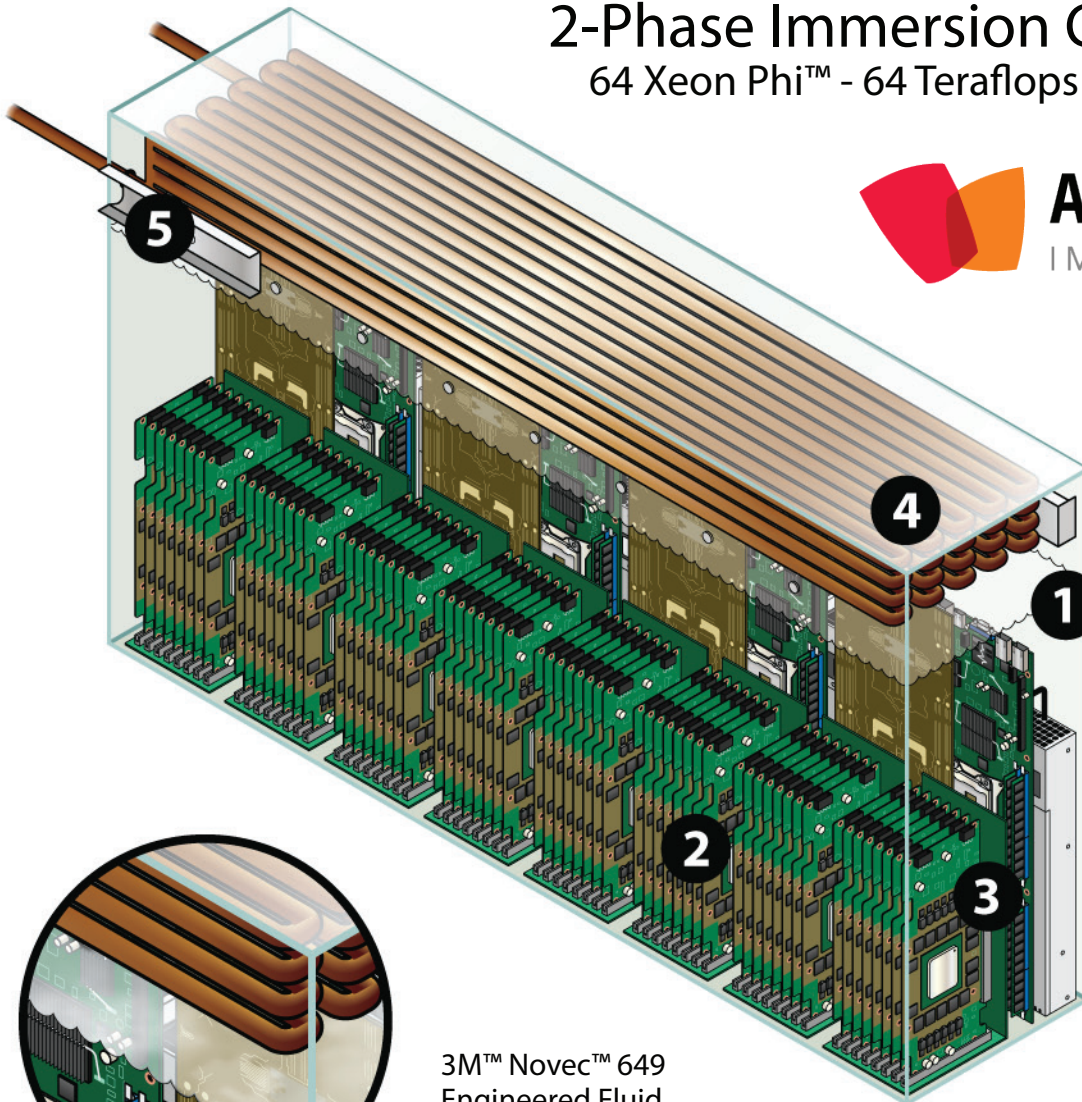


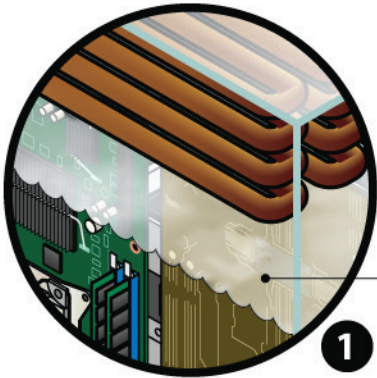
2-Phase Immersion Cooling Concept

64 Xeon Phi™ - 64 Teraflops in a 3U case >25kW

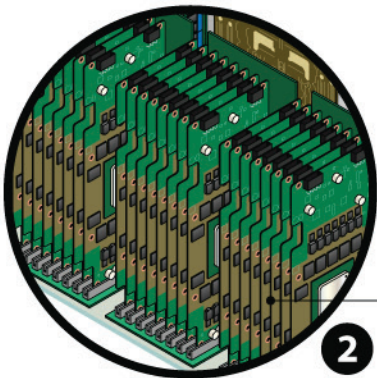


- Commodity Hardware**
- Intel® HPC Mainboards with InfiniBand®
 - Intel® Xeon Phi™
 - Redundant PSUs (>95% 80Plus Platinum)

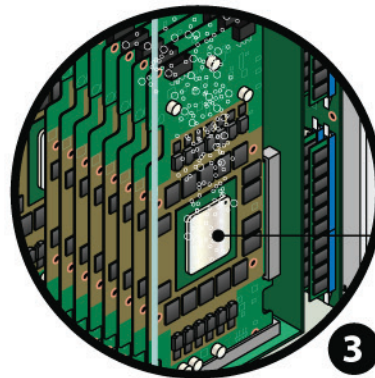
- Custom Hardware**
- Vertical 3U Enclosure
 - PCIe Backplane
 - PDU Backplane



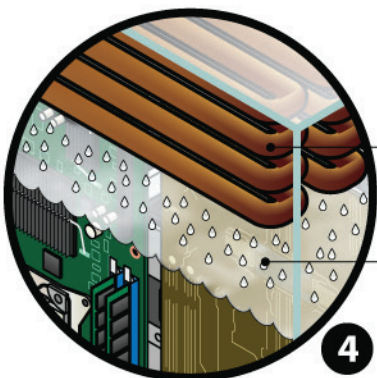
3M™ Novec™ 649
Engineered Fluid
Boiling at 49°C (120° F)



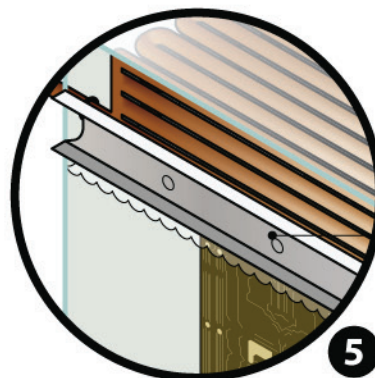
64 Intel® Xeon Phi™
<15mm pitch (0.59")



Heat generated on chip
turns fluid into vapor



Vapor condenses on coil
or lid condenser
Cooler fluid recirculates
passively to bath



Rack mount 3U vertical
(4-6 per 19" server rack)