Tech Preview

Elastic Memory

Memory capacity **automatically provisioned** from **CXL pools** based on **application demand**

What is Elastic Memory

- The **MemVerge Elastic Memory Service** provisions and releases memory from a CXL memory pool on-demand to the hosts
- Prevents a host from swapping or applications being terminated by the Out-Of-Memory (OOM) Killer
- Solves the stranded memory problem

H3 Platforms CXL Memory Pool Demo

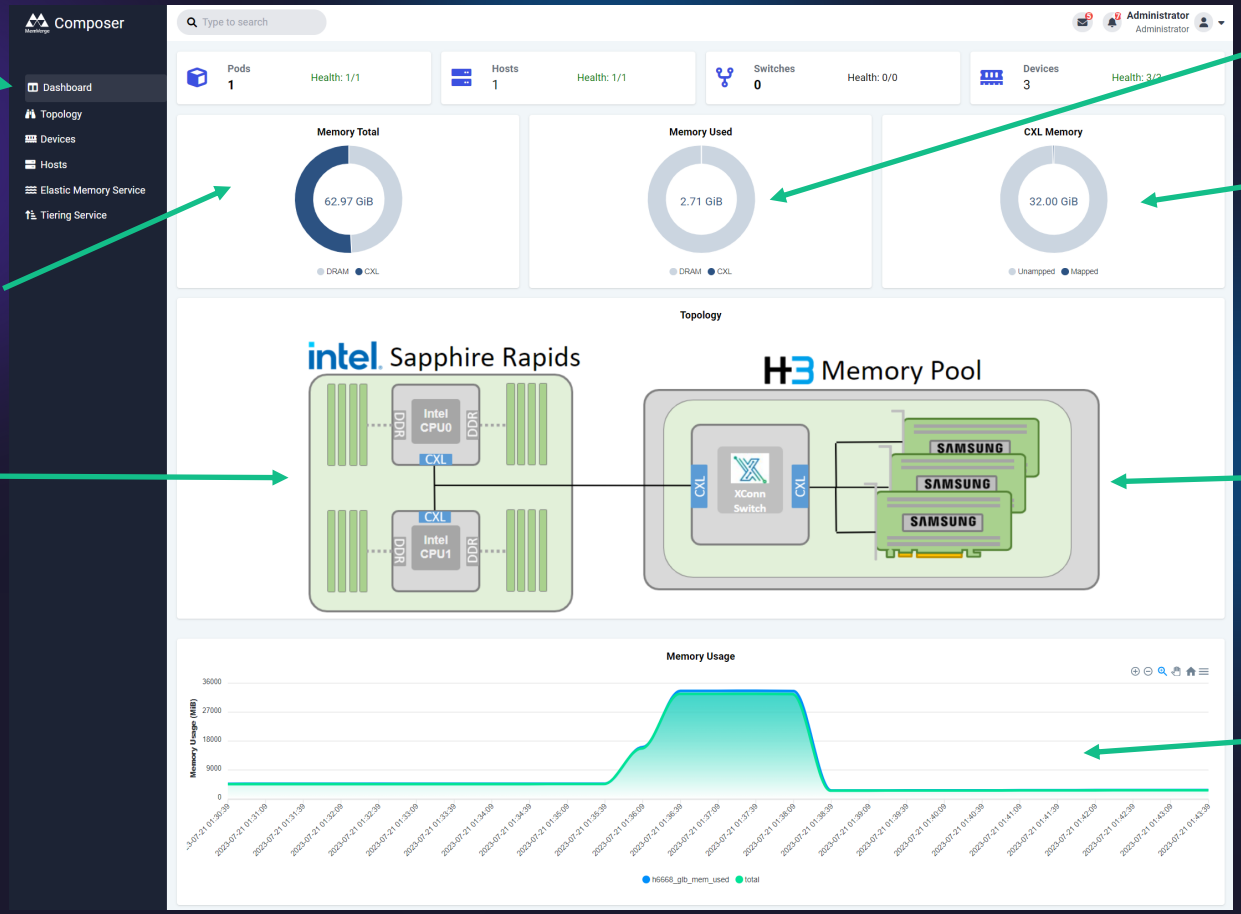
A Single Intel Server with Samsung MX CXL devices

Elastic Memory Demo using H3P CXL Memory Pools

Global Fabric Dashboard View

Available Memory

CXL 1.1 Server



DRAM & CXL Usage

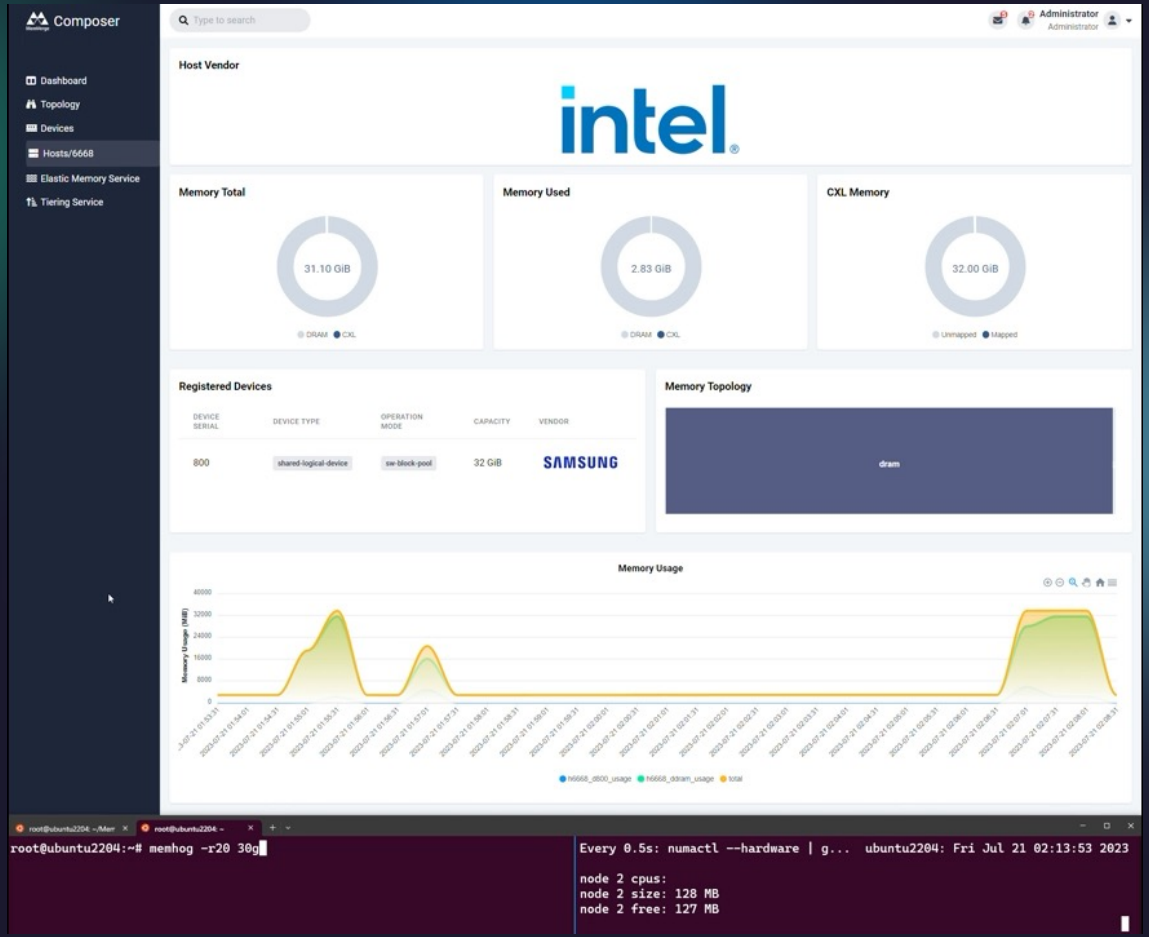
CXL Pool Memory [un]mapped to host

CXL 2.0 Pool

Historical Memory Usage

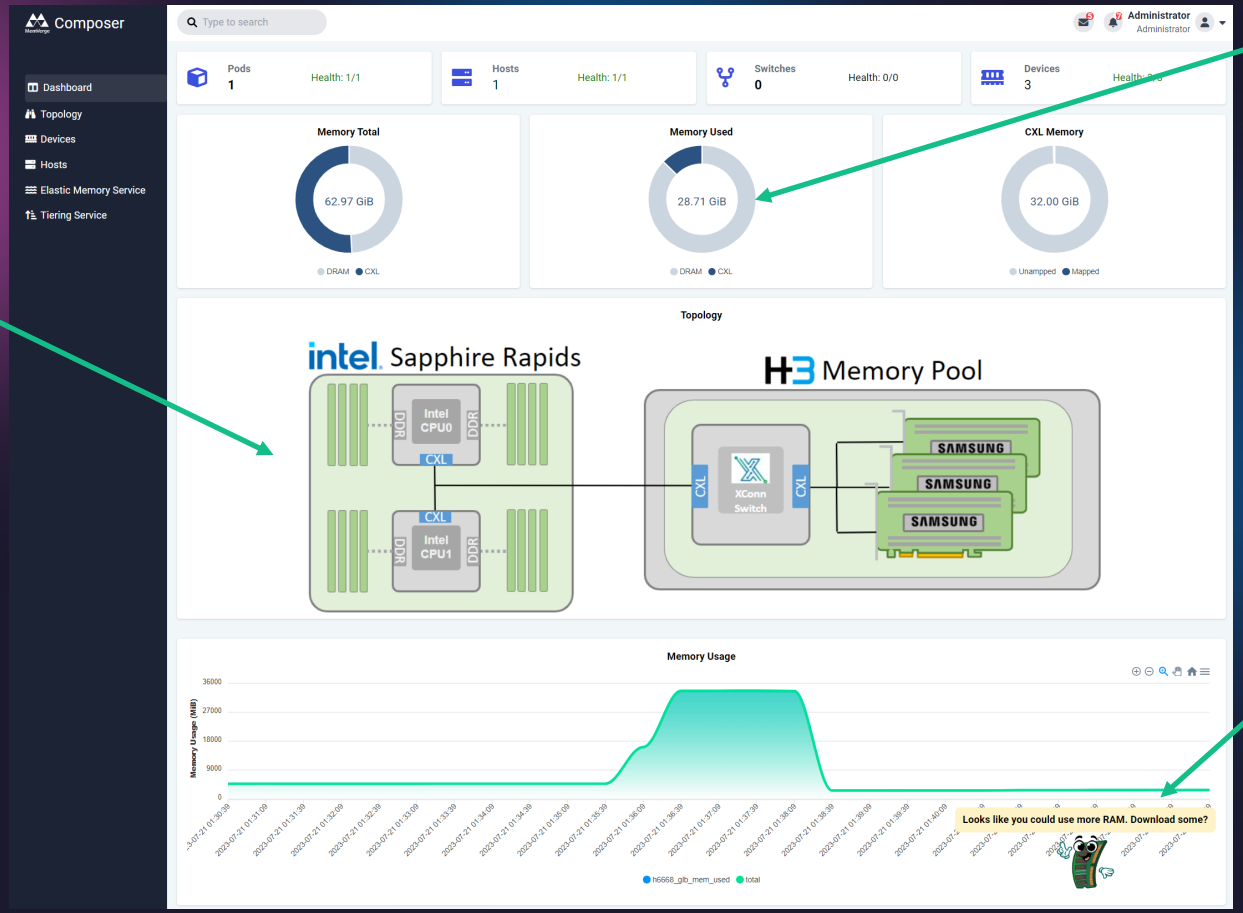
MemVerge

Elastic Memory using an XConn Switch with Intel



MemVerge

Elastic Memory Demo using H3P CXL Memory Pools



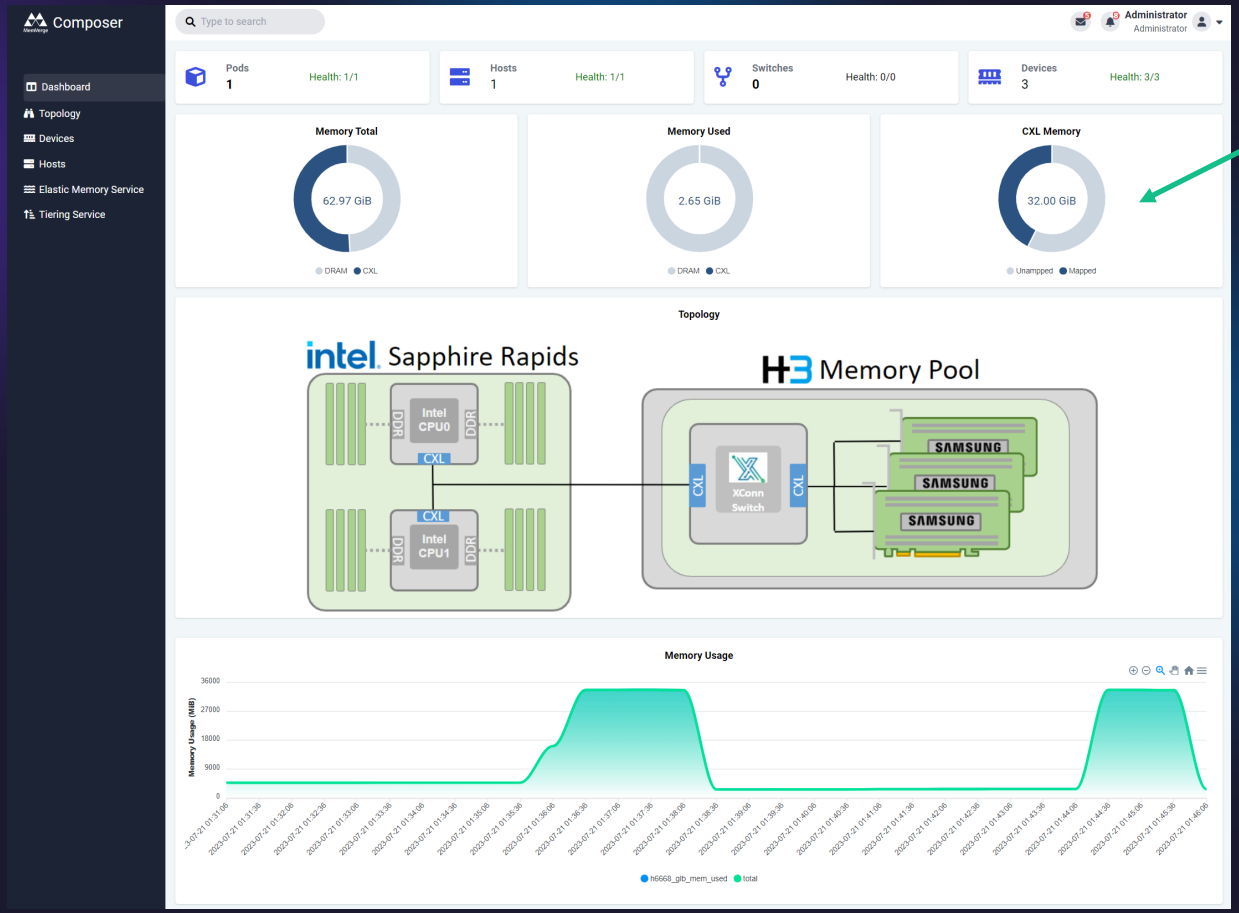
DRAM is ~90% used

Fabric Topology

The host needs more Memory to avoid swapping or triggering the OOM Killer

MemVerge

Elastic Memory Demo using H3P CXL Memory Pools



CXL Memory is provisioned from the pool

MemVerge

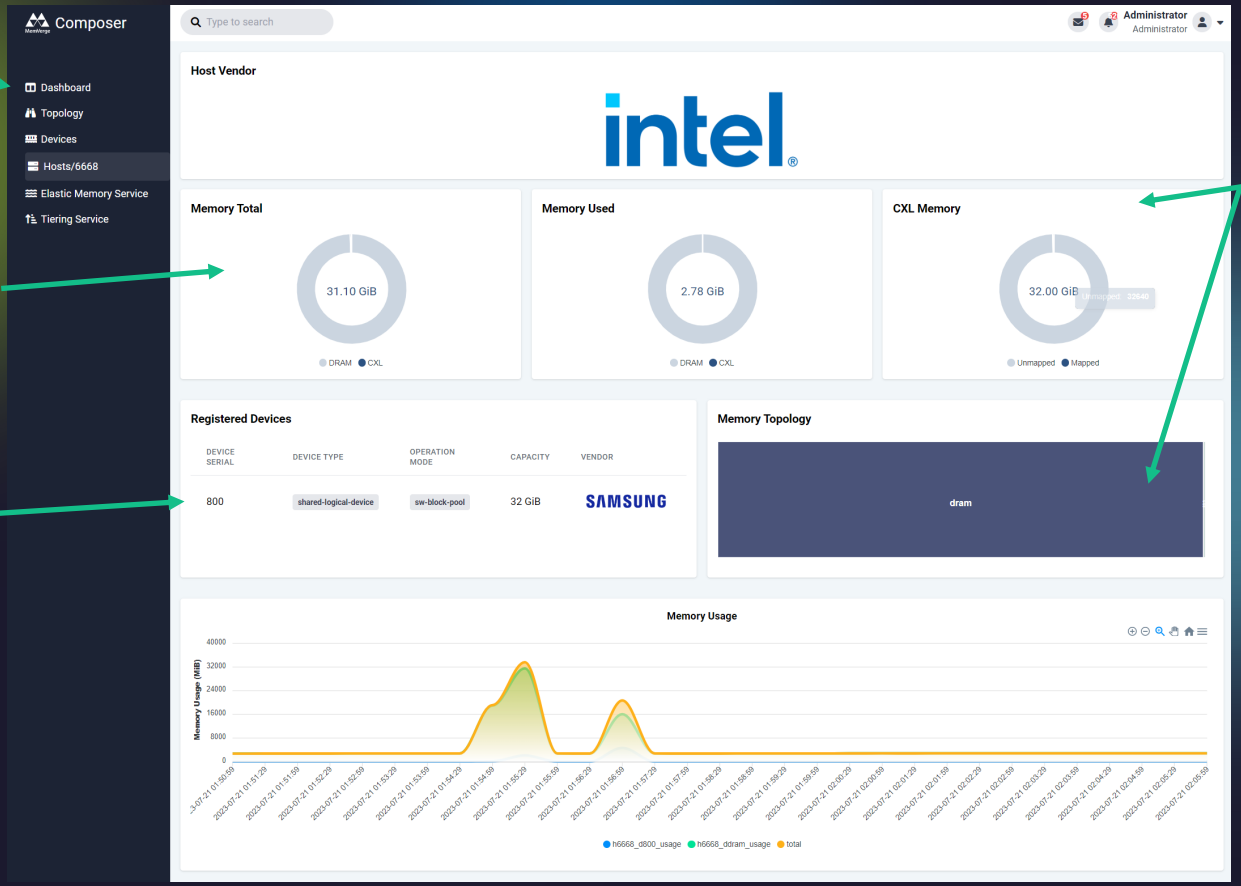
Elastic Memory Demo using H3P CXL Memory Pools

Host View

Available Memory DRAM + CXL

Available CXL Devices

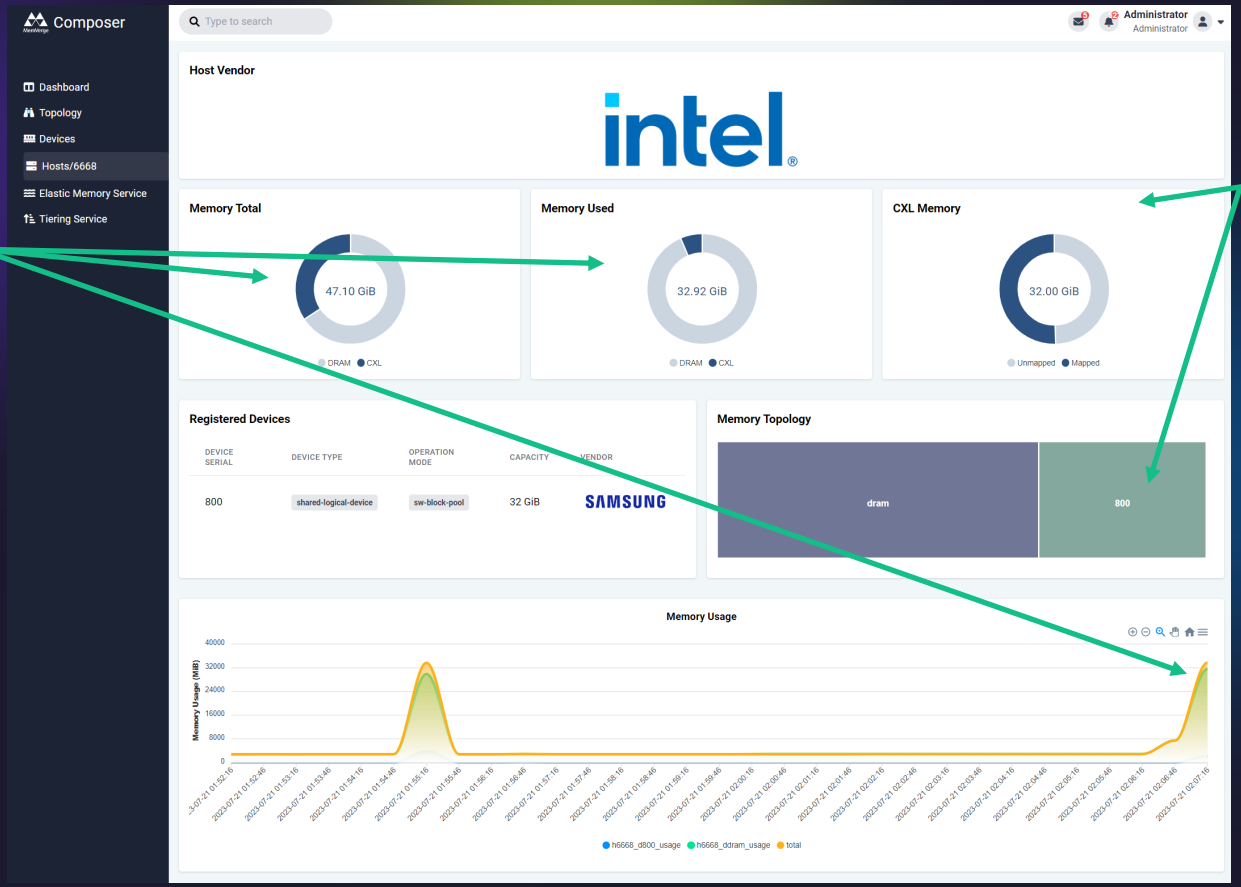
CXL Pool Memory mapped to host



MemVerge

Elastic Memory Demo using H3P CXL Memory Pools

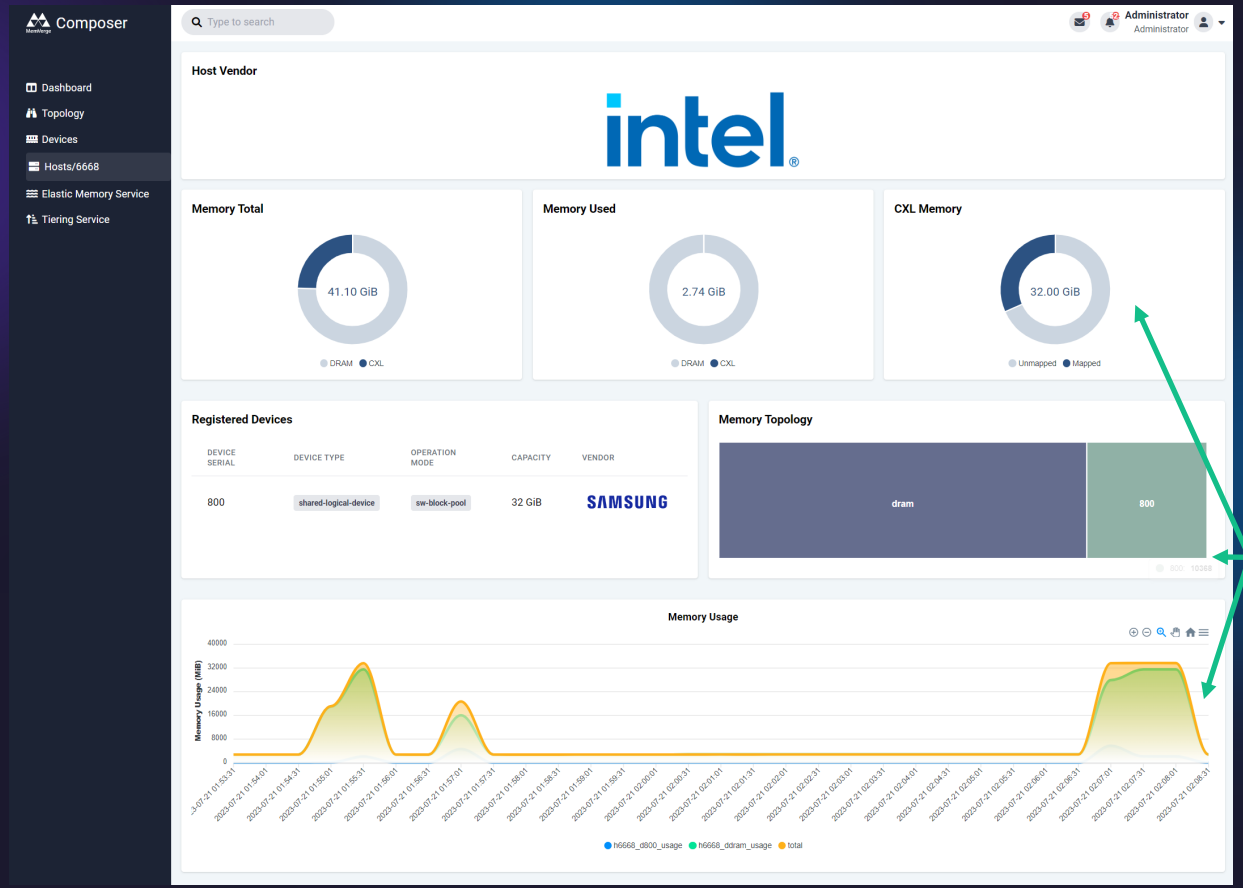
Memory usage exceeds DRAM capacity (32GiB). CXL memory mapped to host to cope with demand



CXL Pool Memory mapped to host

MemVerge

Elastic Memory Demo using H3P CXL Memory Pools



CXL Memory is released back to the pool when demand subsides

XConn CXL Memory Pooling Demo

A Single AMD Genoa Server with Montage CXL Devices

MemVerge

Elastic Memory Demo using an XConn Switch

Global Fabric Dashboard View

Available Memory

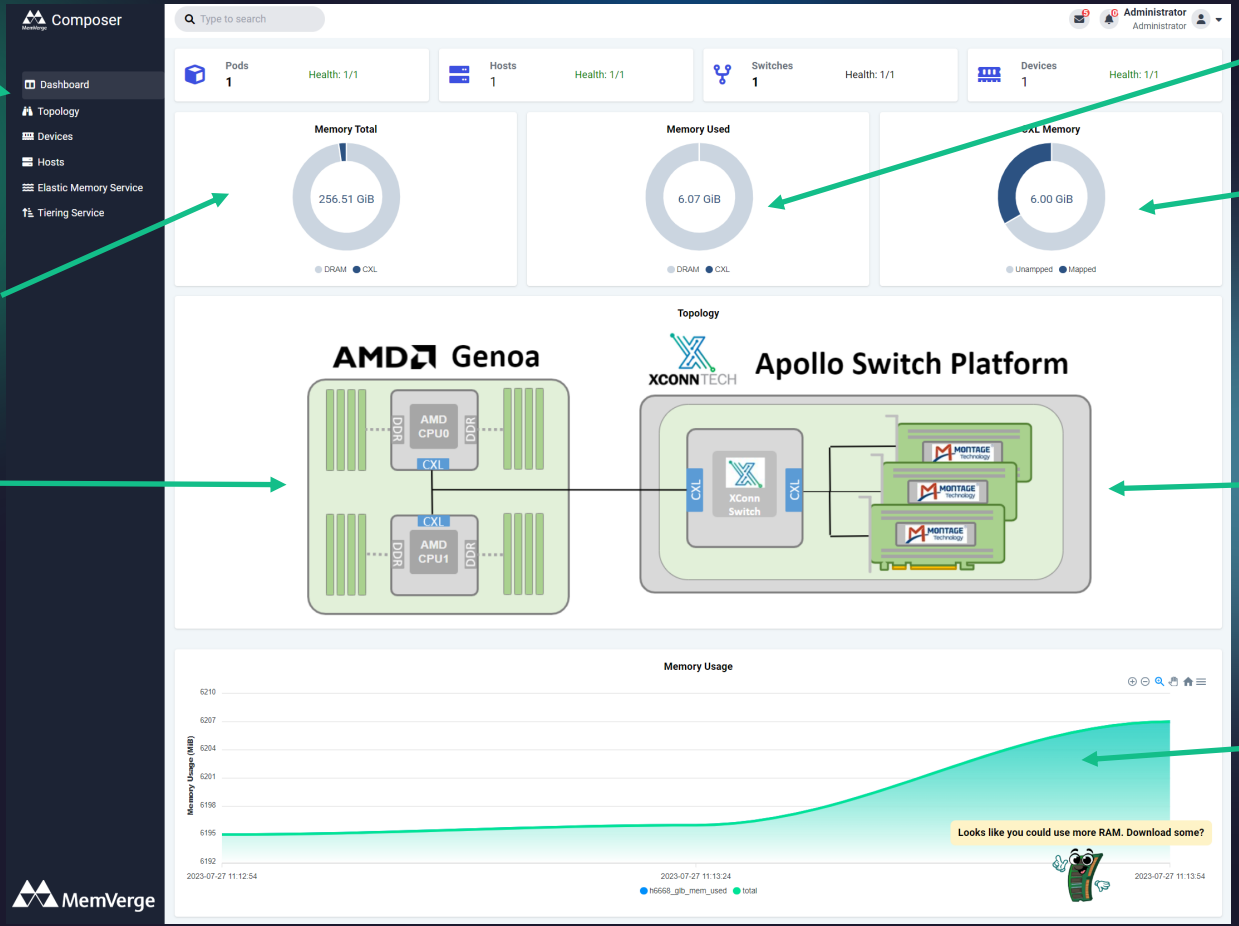
CXL 1.1 Server

DRAM & CXL Usage

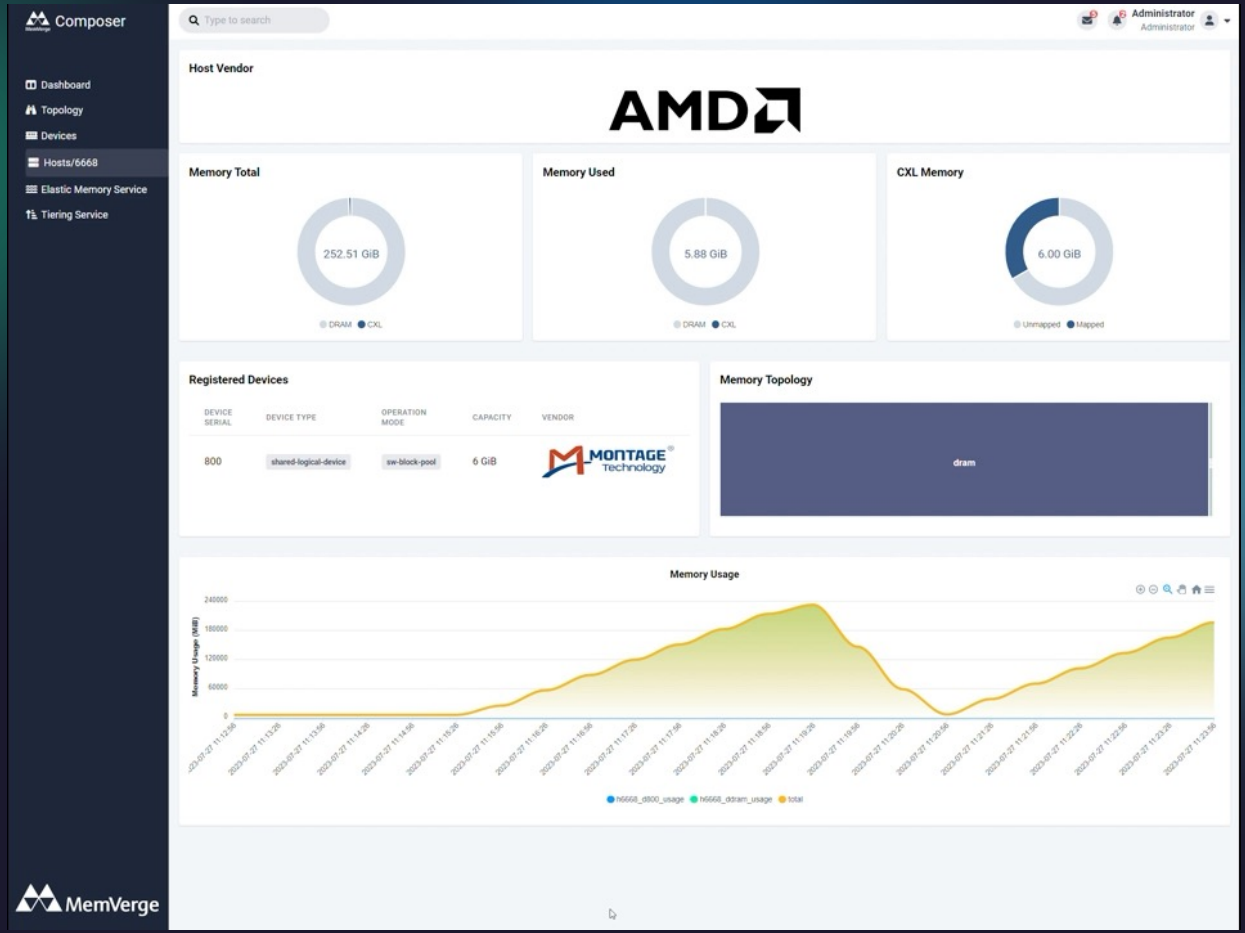
CXL Pool Memory [un]mapped to host

CXL 2.0 Pool

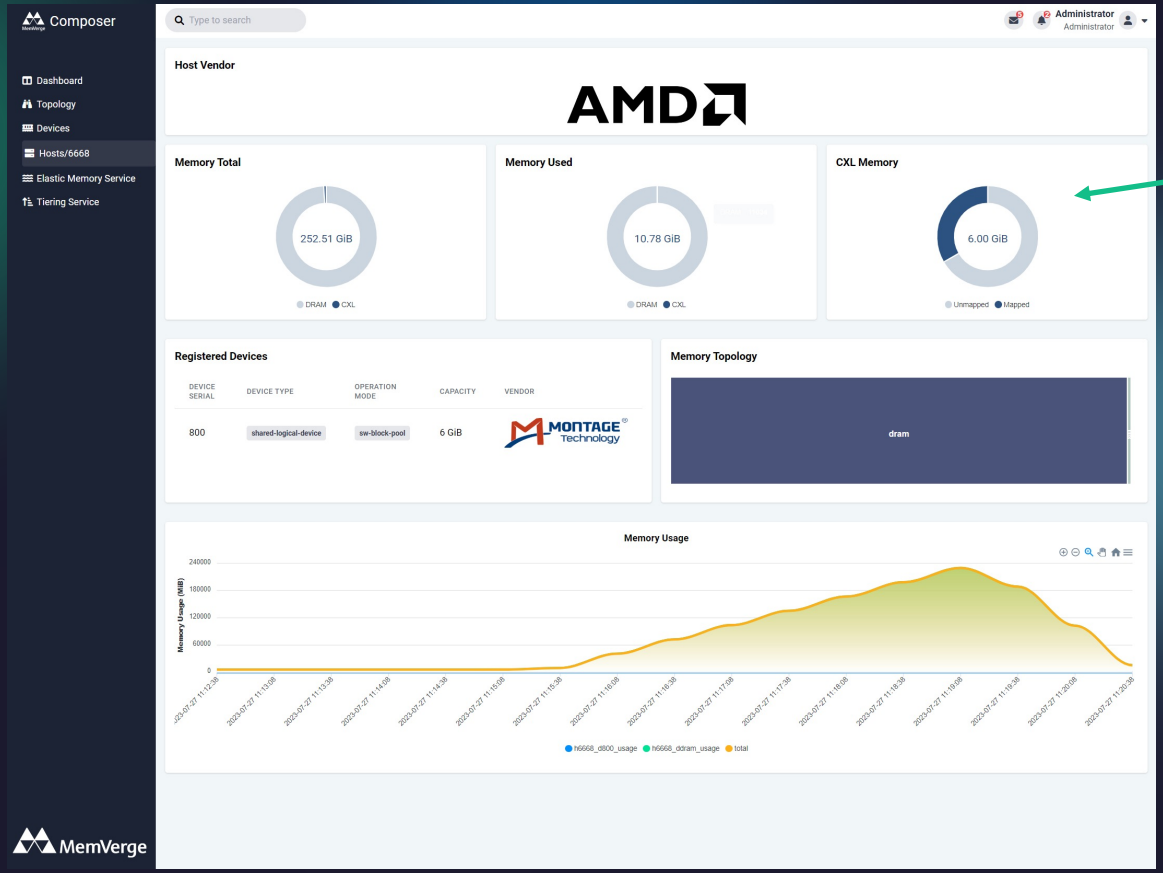
Historical Memory Usage



Elastic Memory using an XConn Switch with AMD

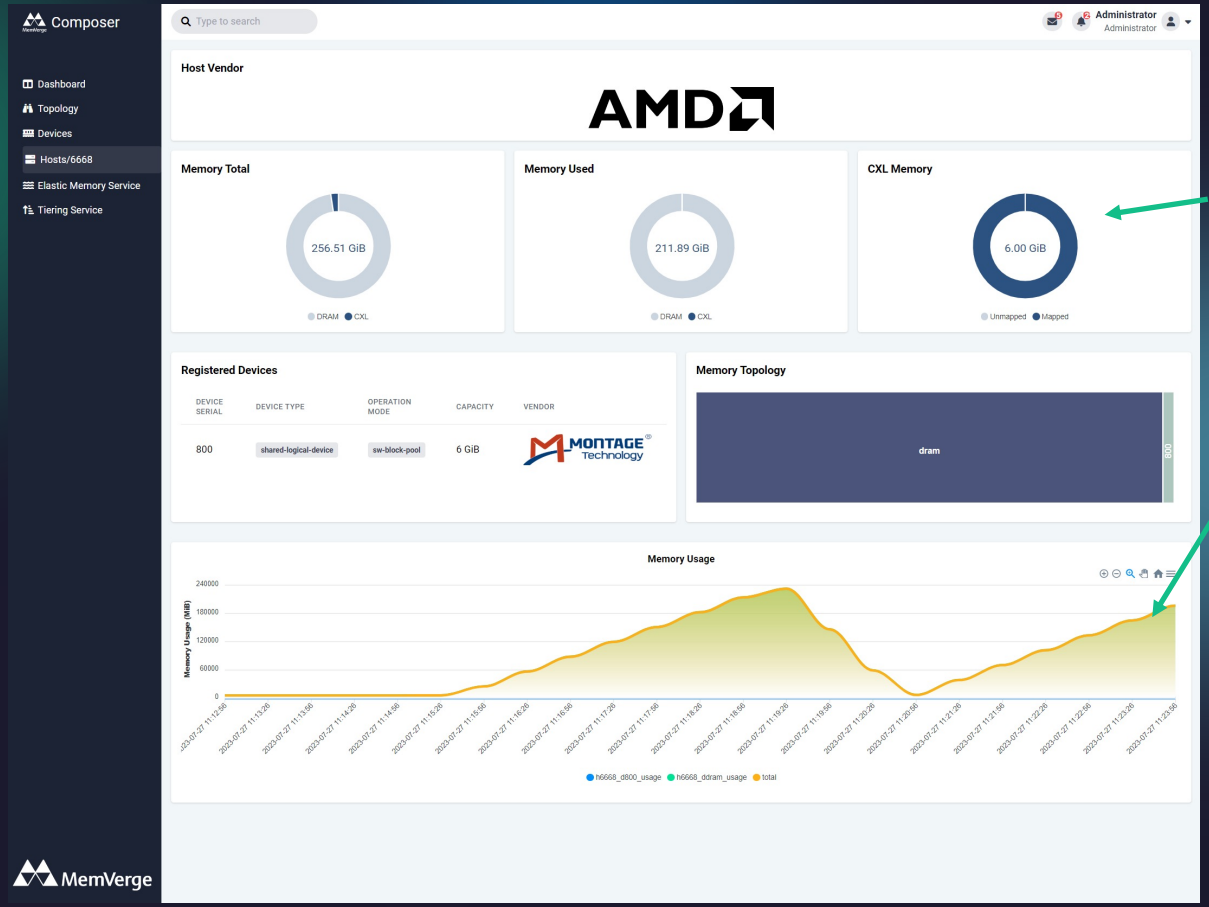


Elastic Memory Demo using an XConn Switch



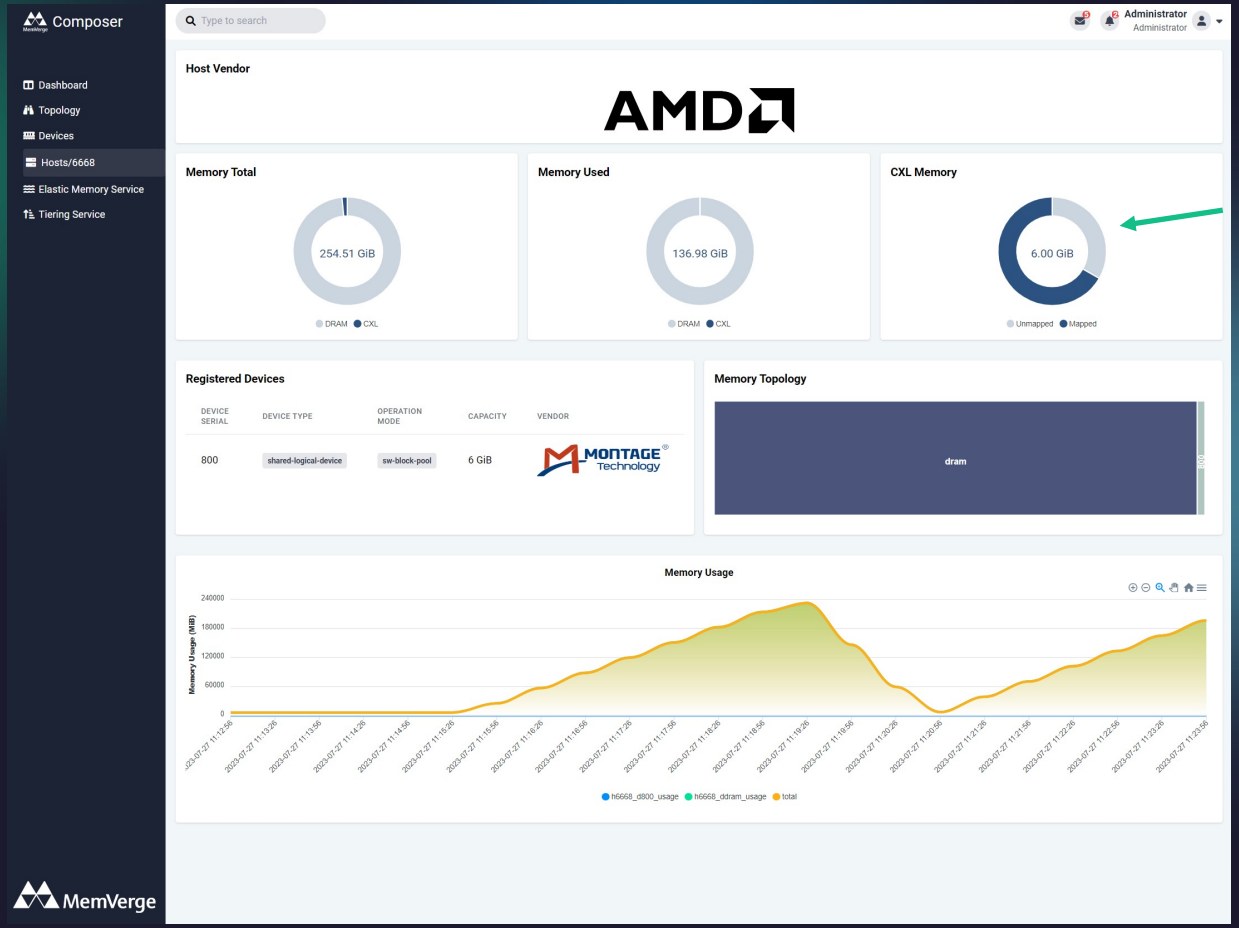
CXL Pool Memory
[un]mapped to host

Elastic Memory Demo using an XConn Switch



More CXL Pool Memory is mapped to the host because Memory demand grows

Elastic Memory Demo using an XConn Switch



As memory demand reduces, memory is released back to the pool

Live Demos by

XCONN TECH

Booth #751