libfabric topology thoughts (teaser before f2f meeting)

Brice Goglin, Inria France
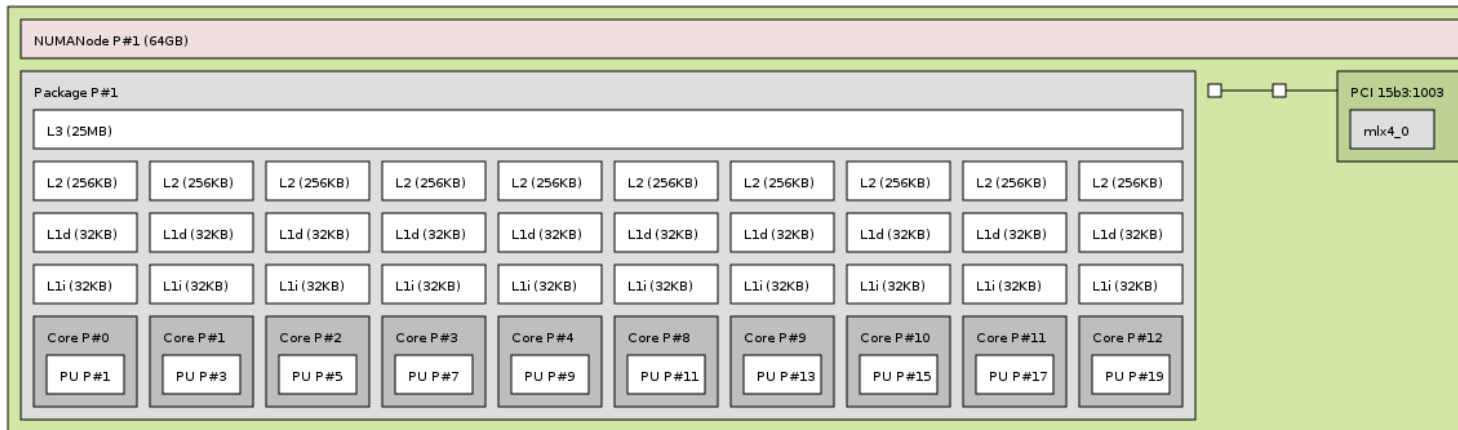Josh Hursey, U. Wisconsin-La Crosse
Jeff Squyres, Cisco

Topology access

Two levels of topology information:
1. Topology in the server
2. Topology in the fabric

Topology in the server

Machine (128GB total)

NUMANode P#0 (64GB)

Package P#0

L3 (25MB)

| L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) |

| L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) |

| L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) |

| Core P#0 | Core P#1 | Core P#2 | Core P#3 | Core P#4 | Core P#8 | Core P#9 | Core P#10 | Core P#11 | Core P#12 |
| PU P#0 | PU P#2 | PU P#4 | PU P#6 | PU P#8 | PU P#10 | PU P#12 | PU P#14 | PU P#16 | PU P#18 |

PCI 14e4:168a
eth0

PCI 14e4:168a
eth1

PCI 14e4:168a
eth2

PCI 14e4:168a
eth3

PCI 1000:0073
sda

PCI 102b:0534

PCI 8086:1d02

NUMANode P#1 (64GB)

Package P#1

L3 (25MB)

| L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) | L2 (256KB) |

| L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) | L1d (32KB) |

| L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) | L1i (32KB) |

| Core P#0 | Core P#1 | Core P#2 | Core P#3 | Core P#4 | Core P#8 | Core P#9 | Core P#10 | Core P#11 | Core P#12 |
| PU P#1 | PU P#3 | PU P#5 | PU P#7 | PU P#9 | PU P#11 | PU P#13 | PU P#15 | PU P#17 | PU P#19 |

PCI 15b3:1003
mlx4_0

Indexes: physical
Date: ven. 09 janv. 2015 15:26:10 CET

Topology in the fabric