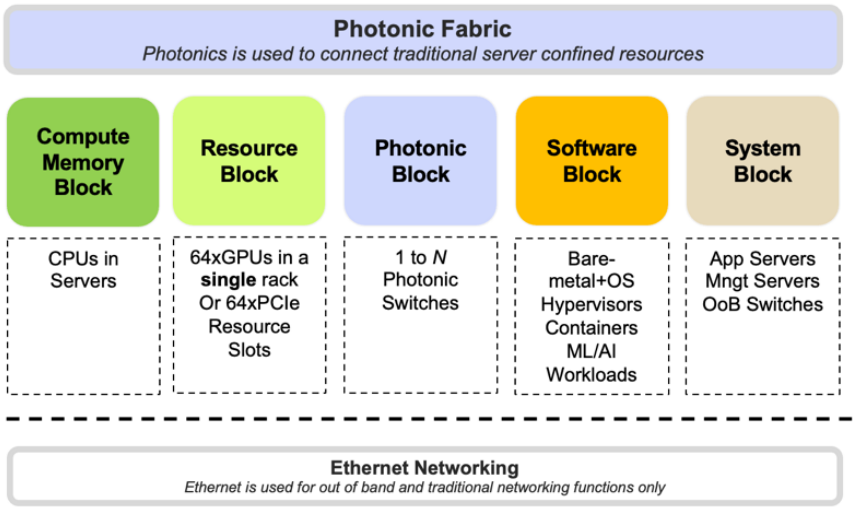
COMPANY SUMMARY

Summary:
Drut Technologies is building a system called the DynamicXcelerator (DX Fabric) for a disaggregated photonic data center, which is an alternative approach to electrical packet switched data center designs. Our architecture separates the compute, storage, GPUs, and networking components into distinct resource pools that are connected by high-speed photonic interconnects. In the future we will show memory and CPU disaggregation as well. This disaggregated architecture, combined with photonic interconnect technology, enables unparalleled scalability, flexibility, performance, and cost improvements. By decoupling the components, data centers can be optimized for specific workloads, reducing costs, and maximizing resource utilization. By using photonic switching in place of electrical switching, we deliver compelling advantages in power, heat, and cooling metrics for the climate conscious generation.

Drut's Mission Statement: Organizing the World's Data Center Resources Around a Photonic Fabric, Because Architecture Matters and Direct Connect is Better

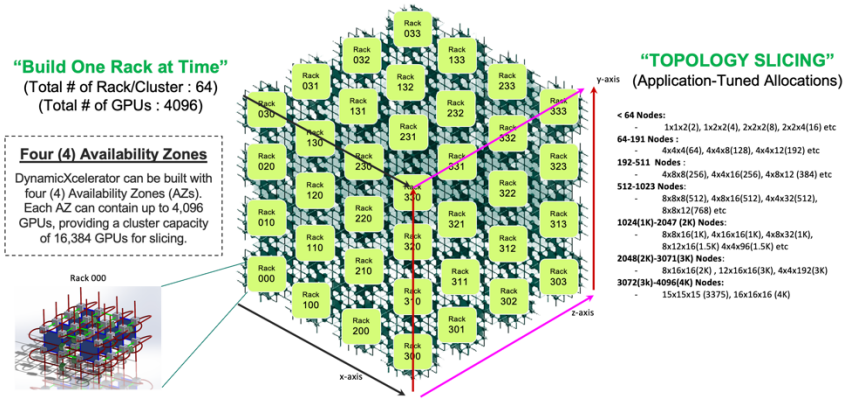
Advantages: Improved performance for AI/HPC/ML clusters is delivered by high-speed, all photonic interconnects, allowing for ultra-low latency and high bandwidth data transmission. This results in significantly improved performance, enabling faster data processing, reduced bottlenecks, and enhanced user experiences. The underlying hardware can be grouped and isolated around software workloads providing for better performance, higher utilization rates and security.



Scalability and Flexibility: The disaggregated architecture of photonic data centers enables modular scalability. Compute, storage, GPU, and networking resources can be independently upgraded or expanded, providing flexibility to meet changing business needs. This approach allows for efficient resource utilization and cost optimization for GPU intensive applications used by AI, ML and HPC clusters. The DynamicXcelerator takes a different approach to the needs of AI/ML scale out. It focuses on the totality of the system and how that system is used to transition data center infrastructure from the **Hypervisor Era** to the **Accelerator Era**. Drut is focused on optimizing the performance of the entire accelerator cluster across interconnect bandwidth, software integration, power/cooling, latency and total system performance. We begin by breaking down the legacy static server box into resource elements. These elements are hosted in what we call the Photonic Resource Unit or PRU. A PRU is attached to a rate agnostic all photonic fabric via the Fabric Interface Card (FIC). CPUs in the servers are also attached to the photonic fabric via the Fabric Interface Card (FIC).

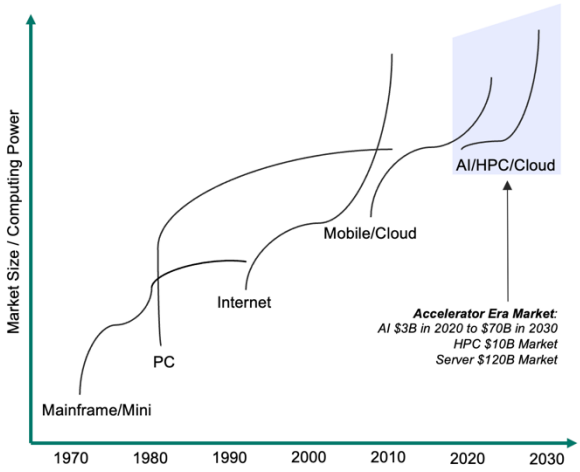
We use software to control and facilitate the how nodes (i.e. CPU + Resources) are constructed within the DX fabric. We call these constructs virtual PODs or VPODs. This fabric control provides on demand resource slicing allowing applications to call fabric configurations through the Drut Software Platform (DSP) for specific workloads.

Living with a DynamicXcelerator fabric is different from legacy data center architectures. With a DX fabric, the user can start small (a few racks) and grow into a large cluster. The photonic fabric is rate agnostic, meaning when the optics are upgraded the fabric is still viable and is upgraded with the optics. The resources (GPUs, NVME, FPGA, etc.) in the PRUs can be upgraded as needed. Powering down a PRU, swapping the GPUs and powering up the PRU is all that is required to upgrade the GPU power of a cluster built with the DX fabric. Compute elements can be swapped as well. It is all software driven.



We still believe in power of ethernet as a scale out technology to the cloud, but for high performance cluster size deployments in the **Accelerator Era**, we believe in the power of a direct connect, dynamic photonic switching fabric. In a climate conscious age, we want to design accelerator clusters using all photonic switching to make a serious improvement in power and cooling budgets as well as performance and latency for efficiency gains.

Energy Efficiency: In terms of micro-processor design as well as large scale data centers, we have a hit the power ceiling. To overcome this barrier, we need to design data centers that leverage photons over electrons. Disaggregated photonic data centers leverage the energy-efficient properties of photonics technologies, minimizing power consumption and reducing operational costs. The decoupled architecture also allows for better thermal management, improving overall energy efficiency and sustainability.



Target Market: Drut sells into the $120B server market that is growing at 7.7% CAGR and we sell into the emerging AI/HPC/ML market which is growing into a $300B market by 2030.

Intellectual Property: Drut has a licensed a pool of ~28 patents. We have been building on top of this IP pool and have submitted applications for additional patents. Drut has been granted patents and we have pending awards from the PTO.

Team Background and Company Status: Leadership team heritage comes from ten (10) years of work and three major releases of all-optical switch deployed at hyperscaler data centers. Founded in 2018 by proven cloud datacenter development team, the company has successful raised three rounds of venture capital funding in 2021, 2022 and 2023. Demonstrated optically disaggregated GPUs with Microsoft Azure in 2020 (Dynamic Abundance). First commercial sales in June 2022. Headquartered in greater Boston (Nashua, NH) with software development office in Hyderabad at the T-Hub Innovation Center.