



EXCHANGE, COLOCATION AND NETWORKING CONVERGE TO CREATE THE NEXT INTERNET AT THE EDGE

The Kinetic Edge is the unique infrastructure foundation for the third act of the internet

Get Started



KINETIC EDGE

THE KINETIC EDGE IS HERE

Edge exchange, edge colocation and edge networking from the Kinetic Edge solve for the real challenges of application delivery and internet infrastructure we face in our modern world.

Solving for the edge nationwide

The Kinetic Edge is the nationwide solution to the challenges facing our internet infrastructure: edge exchange, edge colocation, and the wireless and wireline networks for it. We currently live in several major metro areas across the States, with 20+ in 2020.

Purpose-built technology

Instead of repurposing old technology, the Kinetic Edge is technology built from the ground up on a modern, cutting-edge foundation, with the world-class built edge colocation and a unique cloud architecture.

Remote operation, software-defined

The Kinetic Edge was designed from the ground up to drastically lowering the time, cost and complexity of running smoothly 24/7, 365. Arranged in a way that using our APIs, reduce site visits with remote operations, relax.

Flexible, reliable and high performance

Every layer of the Kinetic Edge is designed for remote operation with high levels of reliability and performance, software-based redundancy, without the need for hardware needed at the edge. Deploy at the edge.

confidence.

THE EDGE IS A NETWORK PROBLEM

At its inception, the internet relied on a few centralized points to operate. As it developed, the internet spread further outwards, into regional facilities and CDNs. Now, these two acts have brought us to the third act of the internet, where the challenges we face now need the edge.

New devices, networks and applications such as autonomous vehicles, city-scale IoT and new generations of intelligent content delivery need dense edge data center colocation resources to support their low-latency performance requirements, as well as their cost and flexibility needs. Bringing compute, storage and network resources to the edge solves for data gravity, as more and more data is generated and digested at the network edge, closer than ever to its users.

But edge colocation alone isn't enough. The edge is a network problem, requiring an entirely new approach to internet infrastructure. That's why Vapor IO's Kinetic Edge also incorporates unique SDN-based edge exchange and edge networking technologies, eliminating unnecessary latency between user and application to create the next generation of internet infrastructure, as well as the leading ecosystem of companies shaping the edge in the Kinetic Edge Alliance.

Edge Exchange

The Kinetic Edge Exchange is where direct, network-to-network data exchange

happens as close as possible to your users. Traffic is exchanged between any Kinetic Edge customers without leaving the Kinetic Edge network in the same metropolitan area, and as an edge exchange, it works with the nearest internet exchange for any internet-bound traffic. With the Kinetic Edge Exchange, each Kinetic Edge facility allows you to configure fine-grained and automated interconnection agreements without any per-agreement or per-connection fees.

Edge Colocation

A cornerstone of the Kinetic Edge is Vapor IO's highly-secure data center facilities for deploying IT equipment at the edge of the wireless network. With several facilities distributed across each major metropolitan area in key locations such as at the base of cell towers and at aggregation hubs, Kinetic Edge colocation makes it easy to place IT equipment as close to your users as possible. Each site is networked together, creating a single city-scale virtual data center with multiple availability zones for the ultimate in software-defined high availability architecture.

Edge Networking

The SDN-based Kinetic Edge Fabric provides each customer with a virtual private network that can span an entire metropolitan area, connecting to both Kinetic Edge and third-party availability zones. This unique network makes it possible to treat all of your infrastructure as if it were in the same building and on the same network, even if it spans dozens of edge locations as part of a single virtual data center. Vapor IO maintains redundant high-capacity fiber routes between all Kinetic Edge sites, as well as to third-party facilities for optimal flexibility and performance.

Edge Ecosystem

The Kinetic Edge Alliance brings together the leading companies in edge computing to solve the key challenges at every layer of the stack, and create solutions for essential edge use cases.

HOW THE KINETIC EDGE WORKS

The core concept of the Kinetic Edge is to take the power and resources of the centralized cloud, but position them within 10 to 20 km of its end users. Vapor IO achieves this using infrastructure edge computing, where micro data centers are positioned on the operator side of the last mile network. These edge data centers contain enough resources in a local area to provide the flexibility and power of the cloud, with the locality and low latency of the edge.

Each of these sites hosts a software-defined meet me room providing access to the Kinetic Edge Exchange, allowing for latency-free interconnection and traffic offload right at the edge. Together with Vapor IO's Kinetic Edge Fabric, a purpose-built, metropolitan-scale fiber mesh network based on high-performance optical infrastructure and SDN, each of these sites and off-edge locations are connected together in a flexible, robust and high-performance fashion.



KINETIC EDGE

A SINGLE KINETIC EDGE SITE

Consider a single Kinetic Edge site in an area. In the diagram, the blue circle indicates the geographical area the site is designed to support. Users within this area can expect to see significant performance improvements when using an application, and the application provider can greatly reduce their operating cost by removing the need to transport large volumes of data across expensive long-distance network connectivity to a remote centralized data center.

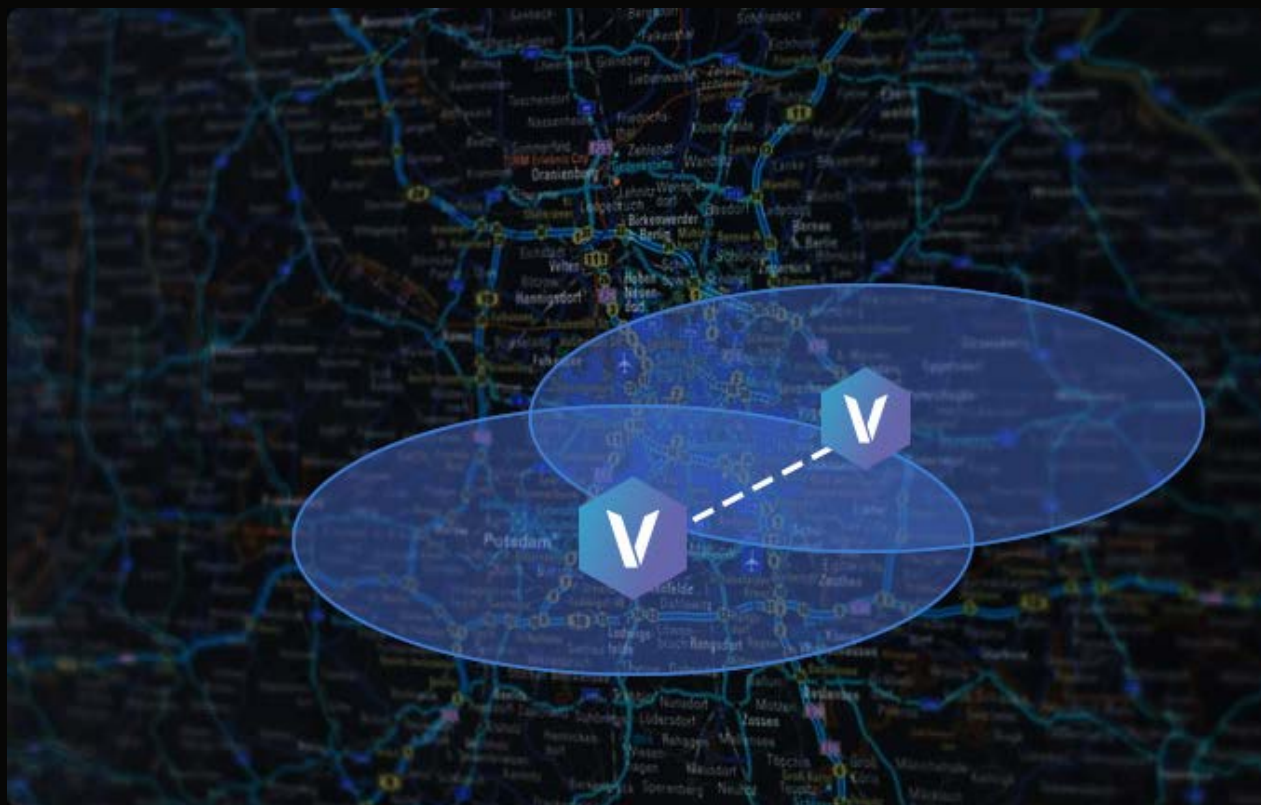


TWO KINETIC EDGE SITES

By adding a second Kinetic Edge site, the power and reliability of the edge system is greatly increased. Adding a second Kinetic Edge site provides the reliability of a tier 2 data center, thanks to the capabilities of the Kinetic Edge Fabric to enable dynamic workload movement. The power supply for

each site can also be diversified, protecting against electrical outages.

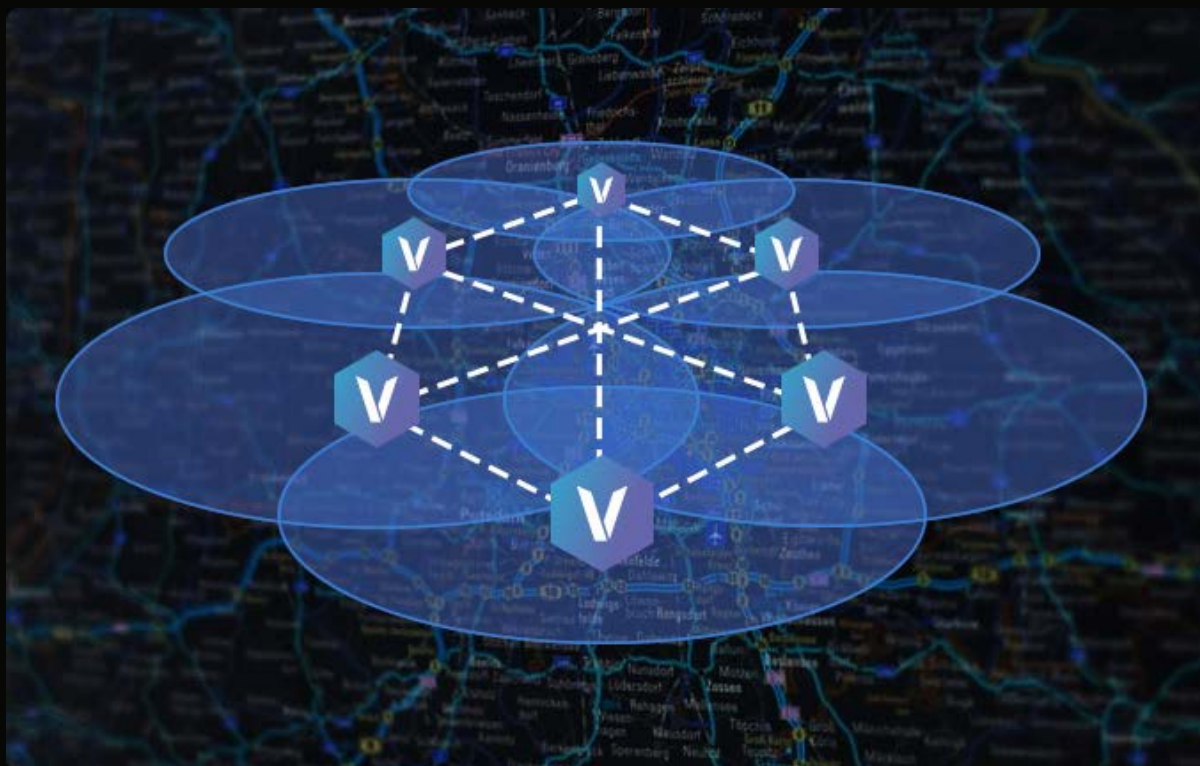
Applications and workloads can be built to incorporate site-to-site migration and rapid failover, significantly enhancing application-level resiliency. The Kinetic Edge is designed to scale out through multiple sites, rapid network connectivity and software-controlled workload placement to support the highest levels of availability possible, exceeding any traditional large-scale facility.



THREE OR MORE KINETIC EDGE SITES

The power, redundancy and flexibility of the Kinetic Edge continues to grow as more Kinetic Edge sites are deployed in an area. With three or more Kinetic Edge sites, not only does the redundancy of the Kinetic Edge continue to grow, but so do the number of availability zones and the power of the edge computing resources in the area, all joined by the Kinetic Edge Fabric.

With only six Kinetic Edge sites in a metropolitan area, the Kinetic Edge makes it possible to exceed the level of reliability of a tier 4 data center, providing twelve nines of reliability (99.9999999999% uptime) which far exceeds what traditional centralized data centers can provide. With critical applications emerging at the edge, such as autonomous driving, this level of reliability isn't optional; it's required to keep mission-critical use cases operating safely.



KINETIC EDGE SPECS

Optimal Topology	Full Mesh
Key Functions	Edge Exchange, Edge Colocation and Edge Networking.
Minimum Number of Kinetic Edge Sites	At least one per metropolitan area for initial services; three per metropolitan area for complete multi-master redundancy.
Maximum Number of Kinetic Edge Sites	Effectively unlimited in a metropolitan area
Deployment Requirements	No external air or water cooling needed. Existing electrical infrastructure in an area is typically sufficient with little or no rework. Access to high-speed fiber connectivity

Capacity per Kinetic Edge Site	150 kW of equipment per Vapor Chamber or Vapor Edge Module
Spacing Between Kinetic Edge Sites	10-20 Km spacing recommended
Optimal Kinetic Edge Site Placement	At the base of cell towers or in aggregation locations, including Distributed Antenna System (DAS) hubs.
Networking	High speed, high-bandwidth inter-site connectivity with software-defined VLANs across the Kinetic Edge Fabric.
Exchange and Interconnection	Interconnection with virtual cross connects via on site edge meet-me rooms

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SUBMIT



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