



MIDDLETOWN

DATA CENTER



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WHO WE ARE

Middletown Data Center (MDC) is a state-of-the-art data center located less than an hour drive from the center of Virginia's data center alley.

MDC has just completed a full renovation and is fully commissioned and available for immediate occupancy. The data center provides 10MW of critical IT load with over 43,400 square feet of raised floor data center space. 10MW is available over 5 data halls.

The facility delivers a comprehensive suite of managed solutions for hyperscale, enterprise-level customers, as well as government entities. These services include network, security options and smart hands that fit the specific needs of each customer. With its prime location and state of the art infrastructure, MDC is ideally suited to provide ancillary/support to the larger data centers in data center alley or as a stand-alone edge site.

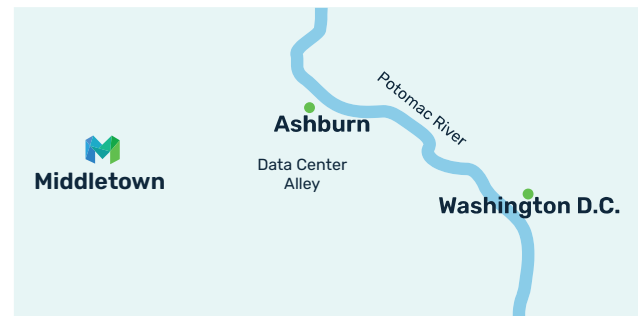
The entire data center facility totals ±136,042 square feet and consists of private offices, disaster recovery rooms, meeting rooms, network operations center (NOC), security and multiple data halls. The facility is further designed to minimize its carbon footprint while simultaneously lowering operation expenses with fully redundant power fed from 3 separate power grid resources.

OPERATIONAL FLEXIBILITY AND BENEFITS

MDC is designed with the ability to island away from the electrical power grid due to the natural gas generators' continuous operations ability and 1,800-hour run time per year approval. MDC can operate in parallel or even provide power back to the electrical power grid.

LOCATION

8209 Valley Pike, Middletown, VA



MDC AT A GLANCE

- **10MW critical IT load**
- **7 diverse fiberroutes**
- **2 separate and diverse POP rooms eliminating single points of failures**
- **6 natural gas Caterpillar G3520H 2469 kW, 1 diesel 1500 kW generators**
- **24x7x365 On-site NOC providing full-range of best-in class professional support services**
- **43,416 sq ft data center space with 24" raised floor, 11'+ ceiling heights**
- **2N UPS Configuration**
- **11 chillers**
- **Industry-standard Compliance including ISO 27001, Soc 1 Type 2, ANSI/TIA-942-B Level 3**

TECHNICAL SPECIFICATIONS

MDC is an advanced data center with 2N+1 configuration for electrical and 2N mechanical redundancy. The infrastructure is designed around maximizing natural gas use as both a back-up and temporary primary power source.

POWER 14 MW (10MW critical IT load)

- Three separate and diversly routed independent utility feeds to the site. Kirk key interlocks revent incorrect coupling of devices and/or utility.
- On site 34.5 KV main protection gear connects to 7 MV switches (N+1 spare if needed for growth) and distributes to (6) 34.5KV to 480V transformers each feeding primary power to independent PDC's.
- The configuration allows for total separation and isolation, eliminates single points of failure for all units.

GENERATORS

6 x CAT G3520s 2465 KW continuous rated natural gas gensets (1,800 hours per engine per year permit to maximize and drive energy efficiency)
1 x 1500kW Diesel Generator (2N+1 support for data halls + base building) equipped with dual purpose CAM connection cabinets. All generators have full capacity cabinets installed with a spare on the reserve skid allowing for additional flexibility.

BUILDING MANAGEMENT

State of the art BMS-SCADA system. All internal systems are 100% autonomous, BMS, electrical automation, mechanical isolation, security and telephone have independent fiber ring networks that are not interconnected and have no internet connectivity. This allows for multiple levels of protection and isolation from intrusion attempts.

FIRE PROTECTION & SUPPRESSION

Smoke / Air Particle sensors, Dual interlock pre-action systems, FM200 in each PDC.

UPS

2N+1 configuration

CERTIFICATIONS

ANSI/TIA-942-B Level 3 / ISO27001 / SOC 1, Type 2 / ASHRAE TC9.9 Humidity Stability Compliant facility, UL 96A Lightning Protection Certified

CONNECTIVITY

Shentel (North + South), Verizon (North + South) and Comcast currently on site. Shentel to Equinix Ashburn latency is less than 10msec. Seven (7) diverse routes built into site for future connectivity upgrades/diversification. Two (2) separate and diverse meet-me rooms. Lit and Dark Fiber with additional route(s) to Ashburn available.

ADDITIONAL

- 150 ft transmission tower on site available for customer use.
- The data center is located 50 miles outside of the Washington DC "blast zone".
- Proven Disaster Recovery Capability

Data halls are fed by (2) 12,470V utility feeds to onsite transformers located at each end of the property into 2 diverse rooms, via separate and diverse paths.

Cooling is provided by a mixture of CRAH and CRAC units.

MMRs have separate independent power sources. MMR 1 and 2 are separated by brick and block walls and an additional room between for isolation.

DIVERSE AND SECURE NETWORK INFRASTRUCTURE

Density of connectivity is a key differentiator. MDC offers physical diversity for carrier networks with diverse fiber optic entry points, each connected to two separate and diverse Meet Me Rooms. All underground conduits are encased in concrete and managed by MDC.

ENERGY EFFICIENCY

1.2 PUE

FREE COOLING (COOLING & INFRASTRUCTURE)

Closed-loop, zero-evaporative cooling minimizes water usage.

FLOOR LAYOUT (COOLING)

Hot aisle containment floor layouts to increase cooling efficiency. In addition, Computational Fluid Dynamics (CFD) modeling precisely delivers cold air solely to the equipment.

NATURAL GAS GENERATOR PLANT

Designed to run continuously. Allows energy efficiency, low cost of utility, and is environmentally friendly.

NOC SUPPORT

- MDC's 24x7x365 NOC provides a full range of support services including incident processing, service requests and IT service management.
- Requests can be opened by phone, email, or via the portal.
- The Service Manager also assists with any non-emergency incidents and escalations.

DISASTER RECOVERY

In the case of a catastrophic power grid event, MDC's Disaster Recovery/Continuity of Operations Program (COOP) has the capability to assist your business to keep it up and running. Originally designed as a hardened facility processing financial transactions, MDC has been further enhanced as a certified ANSI/TIA-942-B Level 3 concurrently maintainable Tier III/IV design that covers mechanical, electrical, architectural, telecom, fire protection, security, and site location. In the case of a catastrophic power grid event, the site has Natural Gas Generator Plant with an uninterrupted fuel source.

- Built-in energy independence with uninterrupted natural gas fuel source in case of a catastrophic emergency event for Data Halls 1 and 2.
- Approximately 90 disaster recovery workstations.
- In addition to continuous natural gas supply there is 48 hours of diesel fuel storage located on site for Data Halls.
- Fire suppression and monitoring system.

REDUNDANCY AND ULTRA AVAILABILITY

MDC offers high levels of availability with redundant and concurrently maintainable capacity components. MDC Service Level Agreements (SLAs), provide customers with full confidence in system uptime, availability, and network performance.

IN ADDITION TO CUSTOMER-SPECIFIC SLAS FOR HOSTING AND COLOCATION SERVICES, OUR STANDARD SLAS INCLUDE:

- 99.999% Power Availability Guarantee with utility feeds from two regional energy providers
- 99.999% Humidity Stability Guarantee – in accordance with ASHRAE TC9.9
- 99.999% Temperature Stability Guarantee
- The Site Includes – 3 diverse utility entries, 5 separate diverse fiber and cable entries, and two POP rooms.

MDC HIGHLIGHTS



DATA CENTER SPACE

43,400 SQ. FT



STRATEGIC LOCATION

57 MILES FROM ASHBURN, VA.
50 MILES FROM WASHINGTON
D.C. BLAST ZONE



DATA CENTER INFRASTRUCTURE

14MW of TOTAL POWER
10MW CRITICAL IT LOAD



CERTIFICATIONS

ANSI/TIA-942-B Level 3:2017
RATED-3 ISO/IEC 27001
SOC 1, Type 2

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