

OCP Ready COLO Facility Assessment

Self Assessment Status:
Data Center Location Name
Data Center Location Address
Site Description: White Space Area
Site Description: Critical IT Power
Site Description: Network Provider Availability
Site Description: Facility Features
Site Description: Other Services
Date Original Assessment is Completed
Re-Assessment Date:

GIGA Data Center-1		
COMPLETE-MEETS REQUIREMENTS		
GIGA Data Center-1		
1035 Mecklenburg Hwy, Mooresville, NC 28115		
10219 sqm (110,000 sqft)		
3MVA		
Multiple Tier 1 Service Providers, 4 onsite with more coming		
24x7x4ever Security, Modular Enclosures w/integrated adiabatic cooling, Hot & Cold aisle containment, Overhead Busway distribution		
Colocation, Managed Hosting, Private Cloud Hosting, Smart Hands, SSAE16, SOC2, HIPAA, PCI DSS		
2019-04-30		
Parameter	Result	Notes

REQUIREMENTS - Attribute				
ACCESS				
Building Access	1. Loading dock with lift or leveler		Optimum	3 dock-high doors with levelers, and 5 full drive-in bays
Delivery pathway, Loading dock to Goods in	1. ≥2.7m (108in) H x ≥2.4m (96in) W x ≥2.4m (96in) D unobstructed access and threshold free		Optimum	Unobstructed, truck-size pathways from loading dock to main data center hall
Delivery pathway, Goods in to White space	1. ≥2.4m (96in) H x ≥1.8m (72in) W unobstructed access and threshold free		Optimum	Unobstructed, truck-size pathways from loading dock to main data center hall
Corridor floor rolling load	1. ≥680kg (1500lb) (6.67kN)		Optimum	5 foot deep concrete floor
Unboxing/pre-staging/storage area floor uniform load	1. ≥1221kg/m2 (250lb/ft2) (11.97kN/m2)		Optimum	Two unboxing areas, one each on north and south side of building
Unboxing/pre-staging/storage area floor concentrated load	1. ≥680kg (1500lb) (6.67kN)		Optimum	
RAMPS				
Gradient	1. Not Applicable - No Ramps Required		Optimum	No ramps or thresholds between loading dock and WindChill Modular enclosures on data center hall
Width	1. Not Applicable - No Ramps Required		Optimum	
Landing area	1. Not Applicable - No Ramps Required		Optimum	
Railings	1. Not Applicable - No Railings Required		Optimum	
LIFTS / ELEVATORS				
Weight loading	1. Not Applicable - No Lift/Elevator Required		Optimum	No elevators, all on main floor
Door height	1. Not Applicable - No Lift/Elevator Required		Optimum	No elevators, all on main floor
Width	1. Not Applicable - No Lift/Elevator Required		Optimum	No elevators, all on main floor
Depth	1. Not Applicable - No Lift/Elevator Required		Optimum	No elevators, all on main floor
WHITE SPACE				
Floor rolling load	1. ≥680kg (1500lb) (6.67kN)		Optimum	5 foot deep concrete floor with epoxy coating
Floor uniform load	1. ≥1221kg/m2 (250lb/ft2) (11.97kN/m2)		Optimum	
Floor concentrated load	1. ≥680kg (1500lb) (6.67kN)		Optimum	
Finished floor to ceiling height	1. ≥4.5m (180in)		Optimum	Data center hall floor-to-ceiling: 30 ft; WindChill Enclosure interior floor-to-ceiling: 8.5 ft
Access floor clearance	1. Not Applicable - No Access Floor		Optimum	
ELECTRICAL				
Number of independent circuits to the rack	1. 2N (A+B)		Optimum	A & B bus standard for concurrent maintainability
Circuit capacity	1. 3φ 32A/230V		Optimum	We run 415V/240V through Starline overhead busway distribution
Circuit voltage	1. 400/230 VAC nominal		Optimum	We run 415V/240V through Starline overhead busway distribution so can support 400/230VAC
Circuit frequency	1. 47-63 Hz		Optimum	60Hz for US-based facility
Power receptacle / WIP Type	1. IEC60309 460R9W or Hubbell CS8364C or Russellstoll 9R53U2W		Optimum	Power whip connected to metered bus plug to provide revenue grade power metering
Circuit receptacle location	1. Overhead		Optimum	We run 415V/240V through Starline overhead busway distribution
Upstream UPS options	1. UPS and non UPS feeds available		Optimum	Use ABB TLE 1,000kVA UPS, 97% efficiency during double-conversion operations or 99% on Eco-mode.
Rack-based batteries permitted	1. Allowed		Optimum	
Generator load acceptance time	1. <60 seconds		Optimum	N+1 Cummins 2.25 MW diesel generators with 72-hr belly tanks
COOLING				
Rack airflow direction	1. Front to Back		Optimum	WindChill enclosure places fan wall in cold aisle to put positive pressure in front of racks, and negative pressure in the hot aisle to remove heat efficiently
Air containment methods	2. Hot/Cold aisle containment for all cabinets in white space		Acceptable	WindChill Enclosure provides a standard hot & cold aisle isolation to facilitate a guaranteed PUE of 1.15
Maximum rack density	1. ≥12kw		Optimum	We can support up to 40kW for every rack in the WindChill Enclosure, or up to 50kW for a rack in the row so long as total load is <= 400Kw
Minimum cold aisle width	2. ≥1200mm (48in)		Acceptable	Rack depth can accomodate 50 inches between cold & hot aisles, so greater cold aisle width can be available based on rack depth under 48"
Minimum free width cold aisle (Inside cage)	1. ≥1200mm (48in)		Optimum	
Minimum hot aisle width	2. ≥900mm (36in)		Acceptable	Rack depth can accomodate 50 inches between cold & hot aisles, so greater hot aisle width can be available based on rack depth under 48"
Inlet air conditions	1. ASHRAE Class A1 Allowable		Optimum	We support ASHRAE TC 9.9 guidelines
Air quality	1. EN 779 G4 and F7 filtering & Gas particulate monitoring to the ANSI/ISA 74.04-1985 G severity		Optimum	We use MERV 11 filters on air inputs into each WindChill enclosure
Temperature rise	1. ≥12 Deg C DeltaT		Optimum	We can deliver a 24 degree F Delta T

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REQUIREMENTS - Attribute		Parameter		Result	Notes
Cabinet blanking of open space		1. Mandatory		Optimum	Allows us to deliver a PUE of 1.15
CABLING					
Cabling infrastructure pathways		1. Top and Front of rack fed		Optimum	Can feed power whips to either front or rear of rack.
Overhead Network Infrastructure containment levels		1. 3 Levels (Intra-Pod cabling; Inter-Pod cabling; OOB cabling)		Optimum	We use the EdgeCore Wedge switch to support 400Gbps network fabric between WindChill Enclosures and the North and South Network (MeetMe) Rooms.
Fibre Type (if installed)		1. OS2 & OM4		Optimum	OS2 is pre-installed for runs to Network & Carrier rooms. Multi-mode available in stock and installed upon request.
Fibre connection presentation (if installed)		2. Installed Per Customer Requirements		Acceptable	LC Single-mode comes pre-installed, as that is the most frequent requirement in colocation. However, multi-mode can be installed upon request.
CONSIDERATIONS					
SERVICE					
Replacement PSU Modules		2. Secure storage available		Acceptable	While Power Shelf inventory can be kept on-site for customers, we don't currently carry these units in stock.
Replacement BBU Modules		2. Secure storage available		Acceptable	While Battery Backup Unit inventory can be kept on-site for customers, we don't currently carry these units in stock.
Option to monitor PSUs and BBUs		1. Yes		Optimum	So long as the protocol is not proprietary, we can monitor it through the Desigo BAS system.
Remote hands for PSU and BBU replacement or expansion		1. Yes		Optimum	Onsite technicians available 24x7x365 for remote hands support
Remote hands for OCP IT hardware replacement or expansion		1. Yes		Optimum	Onsite technicians available 24x7x365 for remote hands support
EFFICIENCY					
Site PUE Monitoring		1. Continuously monitored		Optimum	Only way we can guarantee a PUE of 1.15
Site Design PUE		1. <1.2		Optimum	Designed for maximum PUE of 1.15
Site Annualized PUE Current Achievement		2. Other (Notes required)		Acceptable	DOE-NETL site has delivered 1.06 PUE average since 2012 commissioning. Our DC-1 facility is new and we guarantee a PUE of 1.15
Site WUE Monitoring		1. Continuously monitored		Optimum	Adiabatic cooling requires 98% less water than cooling tower, so we track water use by enclosure
Site CUE Monitoring		2. Other (Notes required)		Acceptable	We use the calculated method where CUE = CEF x PUE. As our primary power comes from emission free sources (hydro & nuclear), we expect this faactor to remain quite low.
OPENNESS					
PUE Published		2. Other (Notes required)		Acceptable	Real-time availability is presented in the data center and will be published on the website after operations commence
Facility Design Drawings & Files		2. Available to view upon request		Acceptable	Not all drawings are available on line, but can be provided upon request