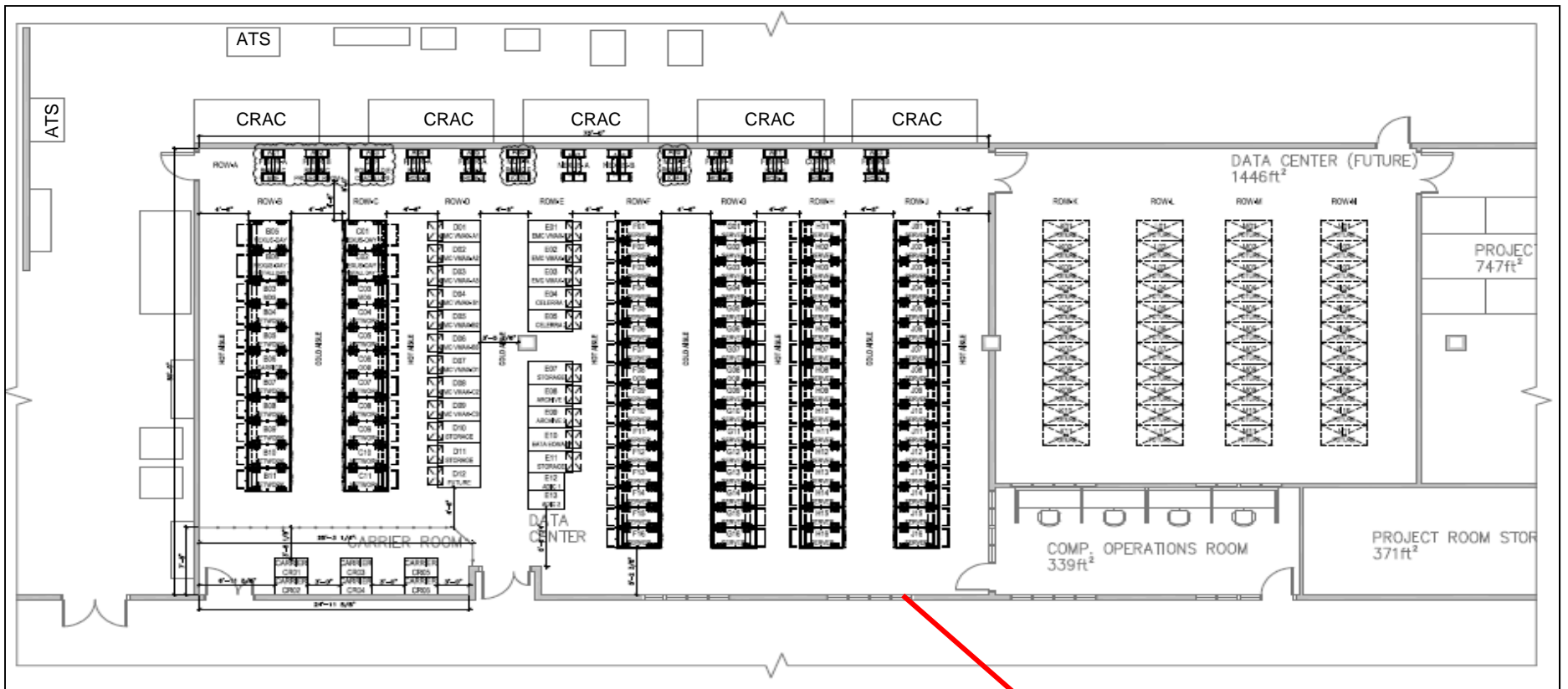
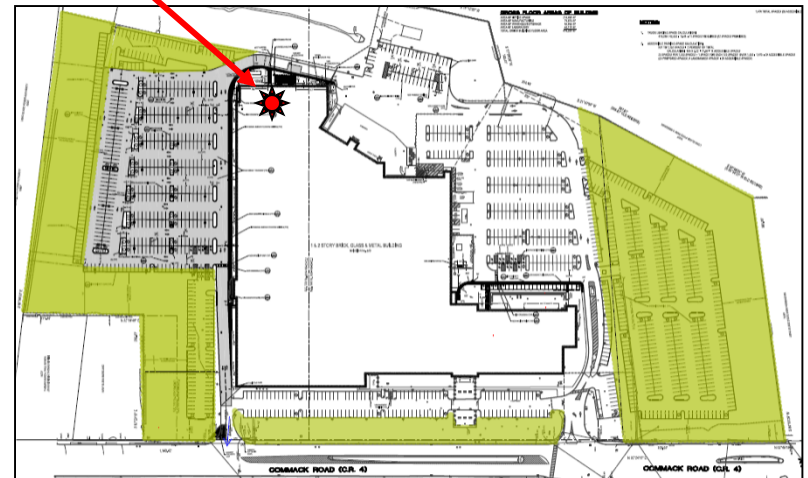


**Data Center**  
500 Commack Rd, Commack



Data Center Layout



Site Plan Key

Data Center Details



Room	Sq ft	Color Code	Constructability	Cooling	Power	Connectivity	Fire Protec.
------	-------	------------	------------------	---------	-------	--------------	--------------

DC White Space	3,700	Orange	<p>A maintenance mezzanine (non-storable) was installed over the data center to provide additional protection. Space is protected by a TPO roof membrane which is installed on top of the mezzanine which stands 20' AFF. NOTE: "storage on the mezzanine is prohibited due to being designed to support vehicle super structure below. It is walkable for roof maintenance inspections only." Suspending off of the joist (at 20' high) is a support system for duct work, fire sprinkler &amp; FM-200 piping, electrical piping &amp; ladder rack, a Star Line Bus Duct System, ceiling grid/tiles and light fixtures. There are no penetrations in the TPO roofing system. Ceiling is insulated, a vapor barrier and double 5/8 sheetrock is used on its underside. On the top side of the mezzanine, Dragon Board is used. Additionally, a large support beam is coated with intumescent paint. In combination with double 5/8 and dragon board and intumescent paint; a two (2 hr fire rating is acquired. Finished drop ceiling is at 12' AFF. Walls are insulated, vapor barrier and 5/8 densglass is used. Floor was existing; helic piles were used to strengthen each of the column footers and floor has a vapor barrier. Floor was scarified and a two part epoxy anti-static dissipated floor. Security- Asso Abloy locksets are outfitted on all doors. Nine (9) doors have card readers connecting to the lockset set; this is driven from Genetec security software.</p>	<p>Five (5) - 30 ton Emerson CRAC Units. Four (4) on-line, One (1) - standby. Designed at 60,000 CFM, system will modulate CFM base on return temp. Each CRAC unit has a dedicated drycooler and pump. All mechanical equipment is connected to standby generator. Overall room is conditioned, main concentration is supply air delivered in aisle at the cabinet fronts. Chatsworth cabinets with a hard connected chimney which sits between top of cabinet and the drop ceiling. This allows heat rejected air from IT equipment to be directed returned to the return plenum.</p>	<p>DC designed for 400 KW. Redundant 1,200 amp ATS (w/ by-pass isolation) support connected UPS units (A &amp; B) and mechanical systems. Redundant 600 amp ATS are used to transfer mechanical connected load between either of the 1,200 amp ATS should maintenance be needed or a failure occur. DC is fed by redundant power feeds from two (2) - 500 KVA Eaton UPS units. Both (A &amp; B) UPS' feed into step down transformers, (208/120V) then to distribution electrical gear. The (A &amp; B) distribution gear feeds (A &amp; B) Star Line Busducts installed above each cabinet row. One (1) Kohler 1 mega watt diesel standby generator supports the design. All electrical switches, transformers and distribution gear is Sq D.</p>	<p>There is (1) South pipe and (1) North pipe which begins at Commack Rd. at either end of the property. Each pipe routes from Commack Rd to the South and North walls near the DC. Pipes penetrate the wall and continue within the building up to the "Carry Room" (within the white space). There are several pull points through out the property for the N &amp; S pipes as well as pull points within the building. A combination of 4 pocket Maxell fabric inner duct and rigid inner duct is used within pipes for the carriers. Currently Open Access and Verison occupy the Carry Room.</p>	<p>Room is equipped with a preaction sprinkler system fed from existing Riser A and an FM-200 system. The design will activate FM-200 system first should the monitoring system sequence be met. If FM-200 has been exhausted and additional fire extinguishing is required, the preaction will engage. The electronic fire alarm control system is stand alone and only connects to building electronic fire alarm via contact closers to engage building FA to sound and report out to central station. The DC cooling and power systems will not be interrupted if the bldg fire alarm were to activ by alarm.</p>
----------------	-------	--------	--	--	--	---	---

				NA	NA	NA	Wet system only
Expansion DC	1,530	Olive	Room construction matches that of white space. There is only lighting and general fire protection. No other infrastructure has been built out. This space was in our design to be a 400 KW DC (high density). It will require an addition PSEG electric service to support the load. All electrical and HVAC requirements would need to mirror existing installed systems. There is NO electrical or cooling capability available to support the future area.				
Project RM	800	Lt Blue	Standard construction; but under the TPO roof.	Emerson overhead Supplemental cooling	Room is out fitted with various phased and capacity circuits.	Cat 6A and fiber are used throughout room.	Wet system only
Prodi. Storage	400	Blue	Standard construction; but under the TPO roof.	Emerson overhead Supplemental cooling	Utility fed convenience receptacles only.	NA	Wet system only
Computer OPS	350	Green	Standard construction; but under the TPO roof.	Emmercon overhead Supplemental cooling	UPS fed convenience receptacles only.	Cat 6A provide connectivity at workstations.	Wet system only
UPS RM	500	Yellow	Standard construction (NO additional overhead protection from water)	Emmercon overhead Supplemental cooling	UPS fed convenience receptacles only.	Cat 6A provide connectivity of UPS units to network for remote monitoring. .	Wet system only
Corridor	5,450	Maroon	Open mechanical corridor	Two (2) Emerson 5 ton CRAC units.	UPS fed convenience receptacles only.	Cat 6A provides connectivity of points throughout for remote monitoring. .	Wet system only
Ancillary Space	700	Red	Restroom/general work space; standard construction.	Existing RTU	UPS fed convenience receptacles only.	Cat 6A provide connectivity at workstations.	Wet system only
<b>total</b>	<b>13,430</b>						
**Exterior DC Support Space	NA	Grey					



One Megawatt Standby Generator,  
Sitting on a 2,600 gal above ground tank

Cam Lock Box  
for Rental



(5) Drycoolers (condensers); each 30 tons capacity



Mechanical corridor behind Data Center;  
left side are (5) 30 ton Liebert air conditioning systems (CRAC)



Distribution  
System

ATS

ATS

KOHLER  
POWER SYSTEMS

TRANSFER SWITCH

Mechanical corridor – right side  
ATS's and distribution system (A) for the Data Center



MTS - 1

MTS - 2

Manual Transfer Switches (MTS)  
for rental generator



Distribution System

ATS

ATS and distribution system (B) for Data Center



UPS #B  
500 KVA

UPS #A  
500 KVA

UPS ROOM



Starline Bus Duct  
distribution system

CRAC units for  
mechanical corridor

FM-200 Cylinders



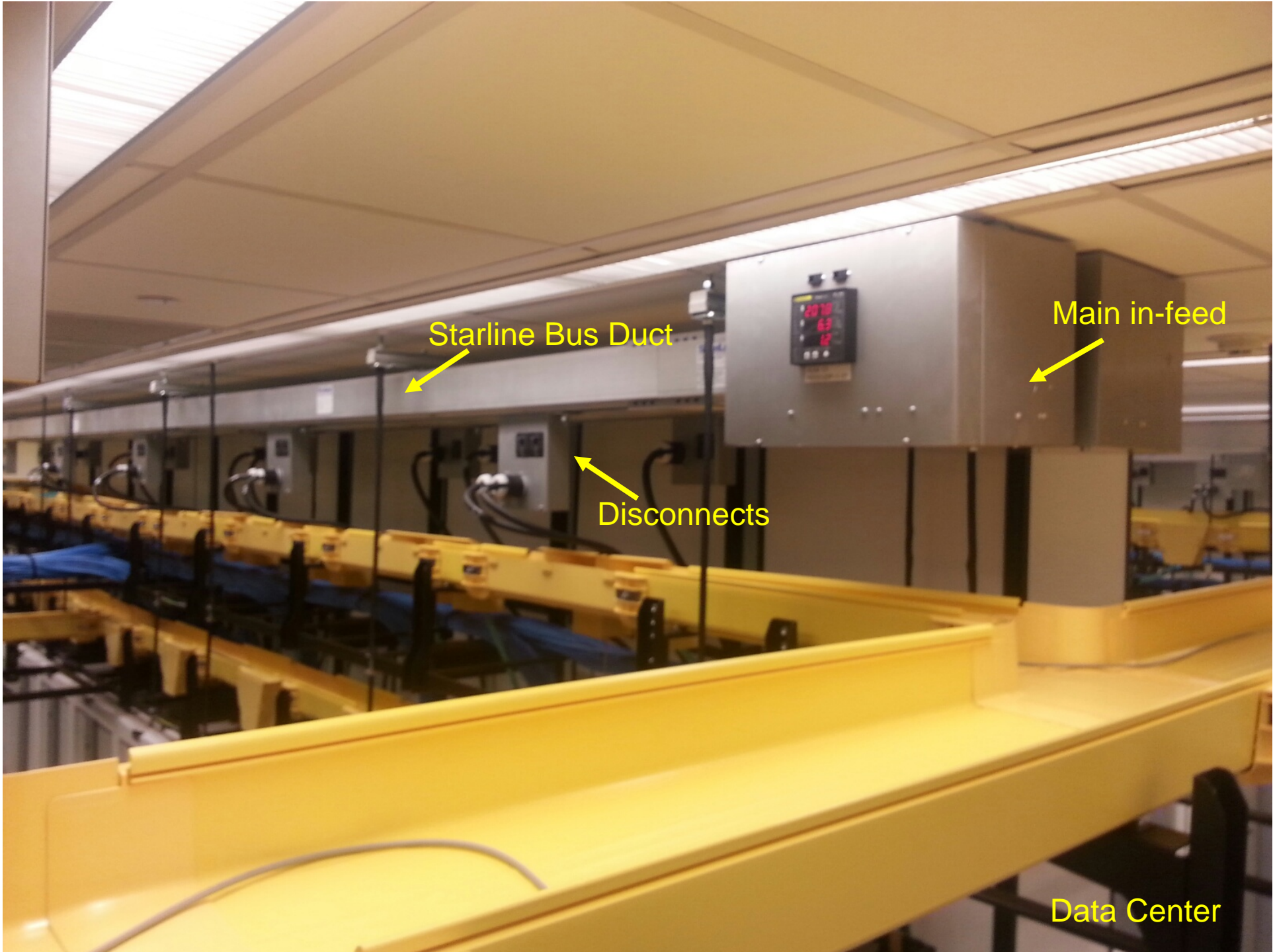
Transformer

Transformer

System A

System B

Starline Bus Duct Distribution System



Starline Bus Duct

Main in-feed

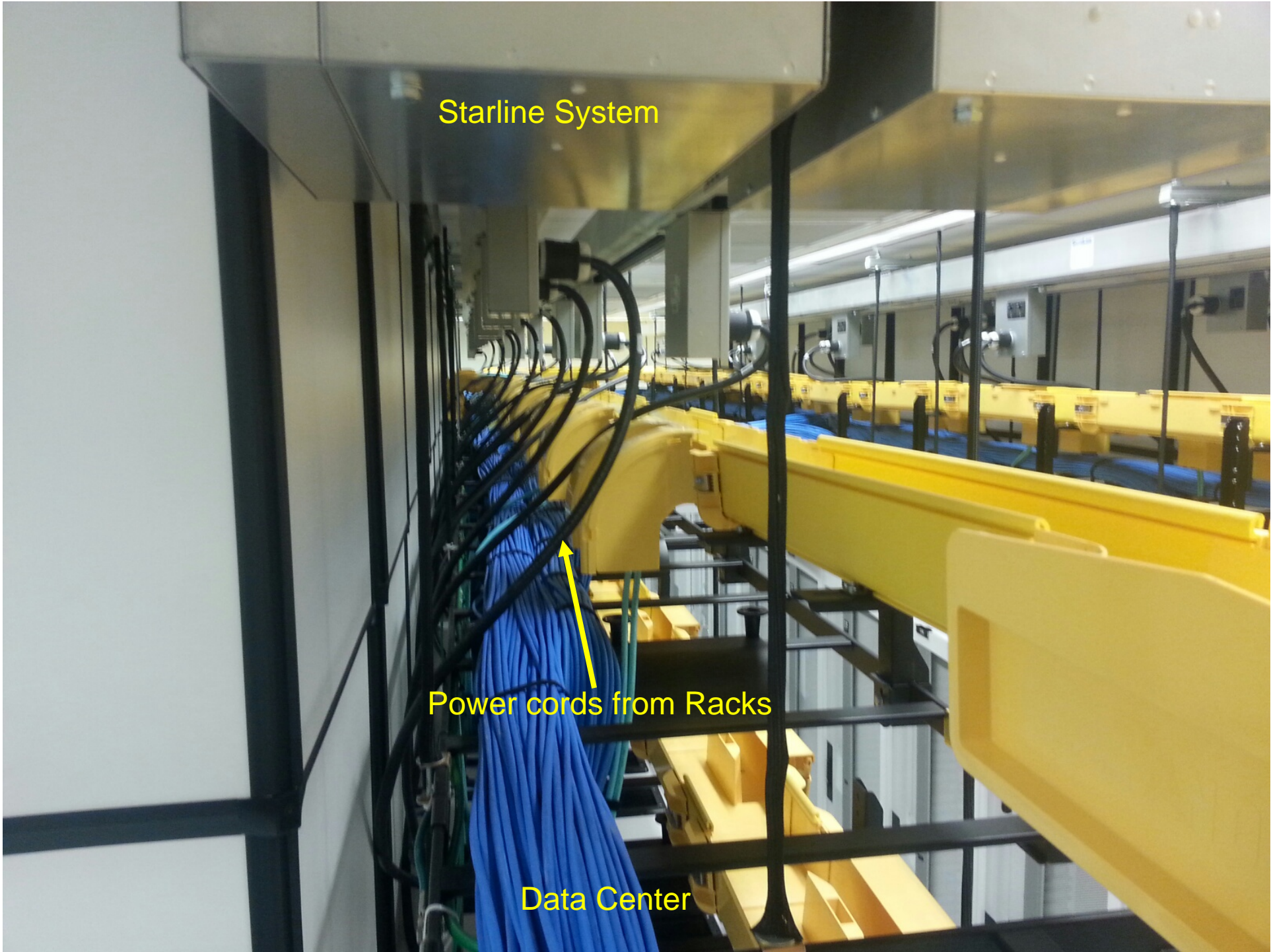
Disconnects

Data Center

Starline System

Power cords from Racks

Data Center



# Informatics Scope

(Racks, Trays, Copper, Fiber)



Starline Bus Duct

Fiber Tray

Ladder Rack  
(Copper cabling)

Carrier Room (cage)

Data Center

Supply  
Registers

Data Center



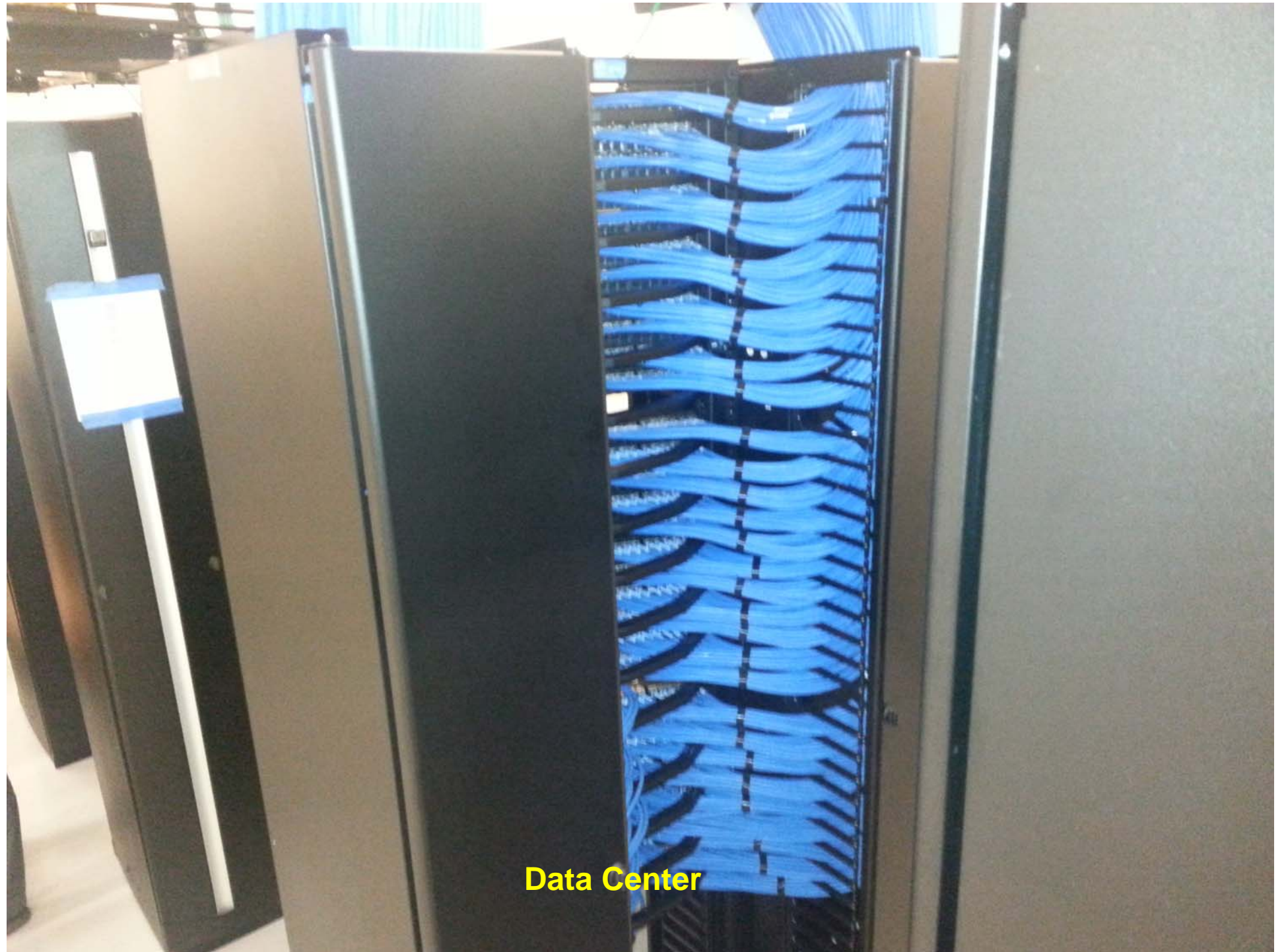
A photograph of a data center aisle. The aisle is lined with server racks on both sides. The racks are white with perforated metal doors. Above the racks, there are black metal racks holding yellow supply registers. Blue cables are bundled and run along the racks. The ceiling has recessed lighting and air conditioning units. The perspective is looking down the aisle.

Supply  
Registers

Data Center

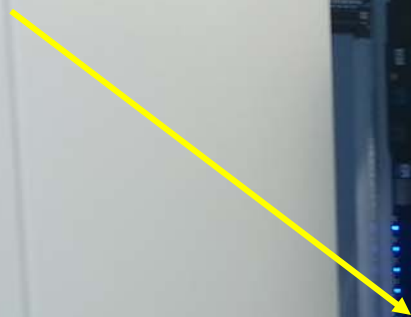
A photograph of a data center aisle. The aisle is lined with black server racks on the right and white cabinets on the left. Above the racks, there are yellow overhead equipment and blue cables bundled together. A person is visible in the distance, walking down the aisle. The floor is light-colored. The text "Data Center" is overlaid in yellow at the bottom center of the image.

**Data Center**



Data Center

PDU's (A & B) mounted  
inside Racks



Data Center

