

ENTERPRISE CONNECTIVITY AND INFRASTRUCTURE SOLUTIONS



PRIZMTM

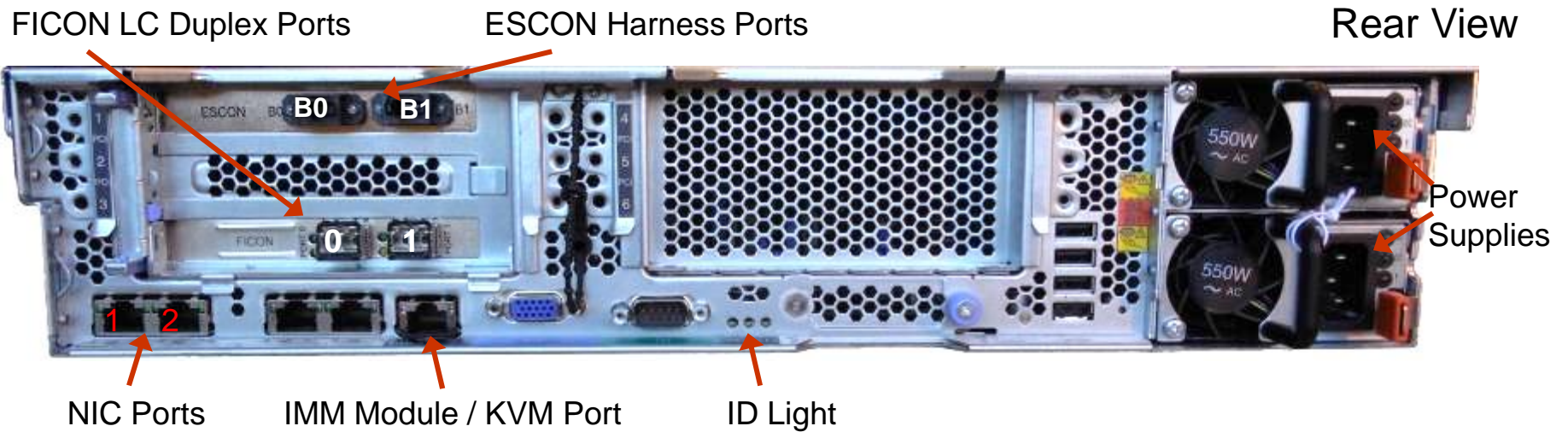
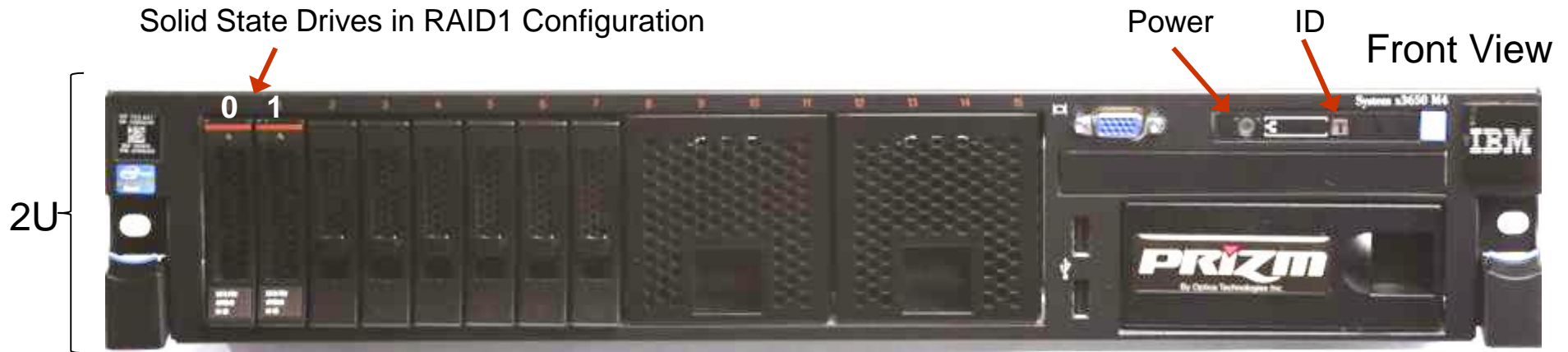
**FICON to ESCON Converter
Planning Specifications**

OPTICATM

Rev 052814

PRIZM™ FICON to ESCON Converter

GENERATION 3



ESBT ESCON to B/T Module for Prizm



- What is ESBT?
 - The Optica ESBT is an ESCON to Bus and Tag Converter module that allows attachment of parallel (Bus/Tag) devices to FICON channels via Prizm. The ESBT provides serial-to-parallel conversion for the Prizm ESCON ports and supports the attachment of a single parallel device.

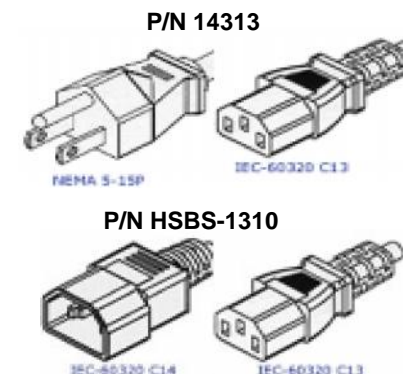
Note – ESBT is functionally different than an Optica FXBT or an IBM 9034 and can only be used in conjunction with Prizm. The FXBT and 9034 are ***not*** interchangeable with the ESBT. The Optica FXBT and IBM 9034 ONLY attach to CHPID types CVC or CBY, while the ESBT attaches to a CNC channel type from Prizm and therefore any existing FXBT or 9034 MUST be replaced with an ESBT for connectivity to FICON channels.

Planning Specifications

Power

- **Prizm:**
 - Dual (2) Power Supplies with IEC-C14 AC outlets; 110/220 Volt; 50/60 Hz, auto-sensing (equipment side)
 - Current = 110V-3.0 amps total / 220V-1.5 amps total (balanced across 2 Hot-Swap Power Supplies)
 - Watts = 360; BTU = 1229
 - Power Cords:
 - (2) P/N 14313; 110V NEMA 5-15P to IEC-60320-C13; 6 ft. (standard for North America)
 - (2) country-specific power cords included (standard for all countries outside of North America)
 - (2) P/N HSBS-1310; 110V/220V IEC-60320-C14 to IEC-60320-C13; 6 ft. PDU-style (standard)

- **ESBT:**
 - (1) Power Supply with IEC-C14 AC outlet; 110/220 Volt; 50/60 Hz, auto-sensing (equipment side)
 - Current = 110V-.2 amps / 220V-.1 amps
 - Power Cords:
 - (1) P/N 14313; 110V NEMA 5-15P to IEC-60320-C13; 6 ft. (standard for North America)
 - (1) country-specific power cord included (standard for all countries outside of North America)
 - (1) P/N HSBS-1310; 110V/220V IEC-60320-C14 to IEC-60320-C13; 6 ft. PDU-style (optional, must request)



Dimensions

- **Prizm:**
 - Height = 2U, 86.5 mm / 3.4 inches; Width = 445 mm / 17.5 inches; Depth = 746 mm / 29.4 inches
 - Sliding rails and cable management kit standard with each unit, 19 inch rack mount compatible

- **ESBT:**
 - Height = 5.08 cm / 2 inches; Width = 19.37 cm / 7.63 inches; Depth = 30.48 cm / 12 inches
 - Optional 19 inch rack mount kit available, accommodates qty 8 ESBT's vertically



- Cabling**
- ** The purpose of these cables is to convert the native hardware connector only
 - ** They cannot be used for connecting 2 hardware elements
 - ** Cables from Prizm to the I/O device or ESBT are supplied by the user

• **Prizm**

- **FICON:** LC Duplex Connector
 - LX - Longwave GBICs (singlemode 9u, 1310 nm - Yellow)
 - SX - Shortwave GBICs (multimode 50u, 850 nm - Aqua 10G)
- **ESCON:** MT-RJ Connector Harness (**standard**); Multimode **62.5u**
 ESCON Duplex Connector Harness (**optional**); Multimode **62.5u**



PN: 27072-003M
4 Port MTP to MTRJ Harness
(Standard)



ESCON Harness connects to B0 or B1 and fans out to four ESCON connections.

PN: 27099-003M
4 Port MTP to Duplex Harness
(Optional)



• **ESBT**

- **ESCON:** MTRJ Connector or ESCON Duplex Connector (Both types in stock)
 - Multimode **62.5u**
- **Bus & Tag:** Proprietary "Y" Cable. If replacing Optica FXBT converter, existing "Y" cable can be re-used. If replacing IBM 9034 converter, a "Y" cable must be purchased with ESBT

PN: 02-JT-6R-02M
ESCON MTRJ (Plug) to Duplex (Jack) Conversion



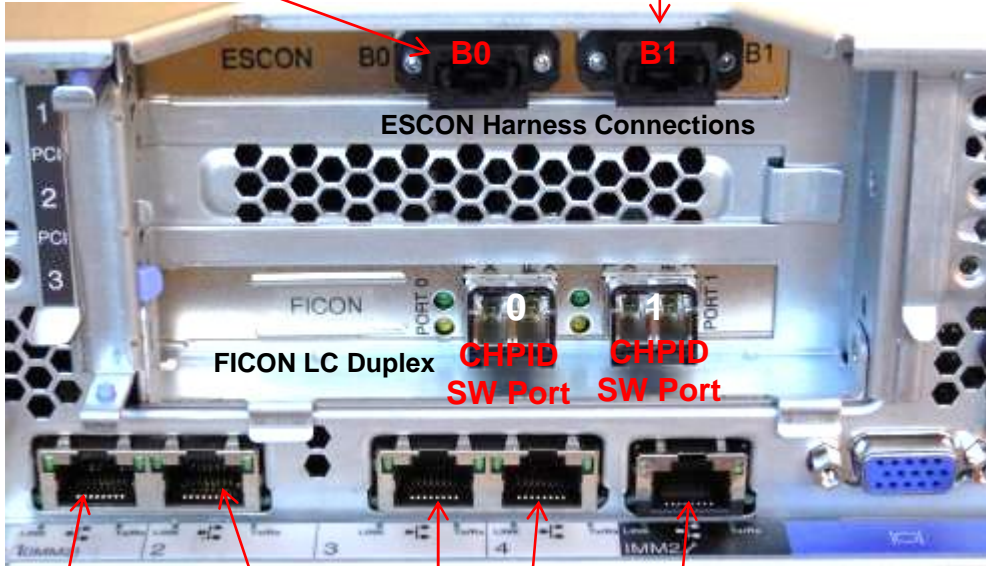
PN: 02-JQ-6R-002
ESCON MTRJ (Jack) to Duplex (Plug) Conversion



"Y" cable
P/N 149510



Prizm Port Layout and Assignments



PN: 27072-003M
4-Port MTP to MTRJ Harness (Standard)



ESCON Harness connects to B0 and/or B1 and fans out to four port connections.

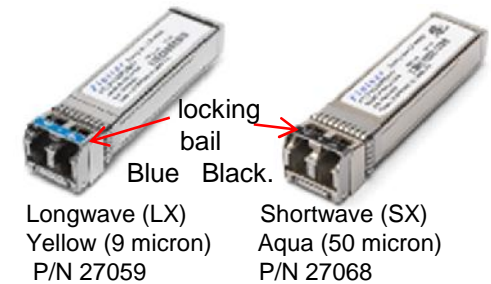
PN: 27099-003M
4-Port MTP to Duplex Harness (Optional)



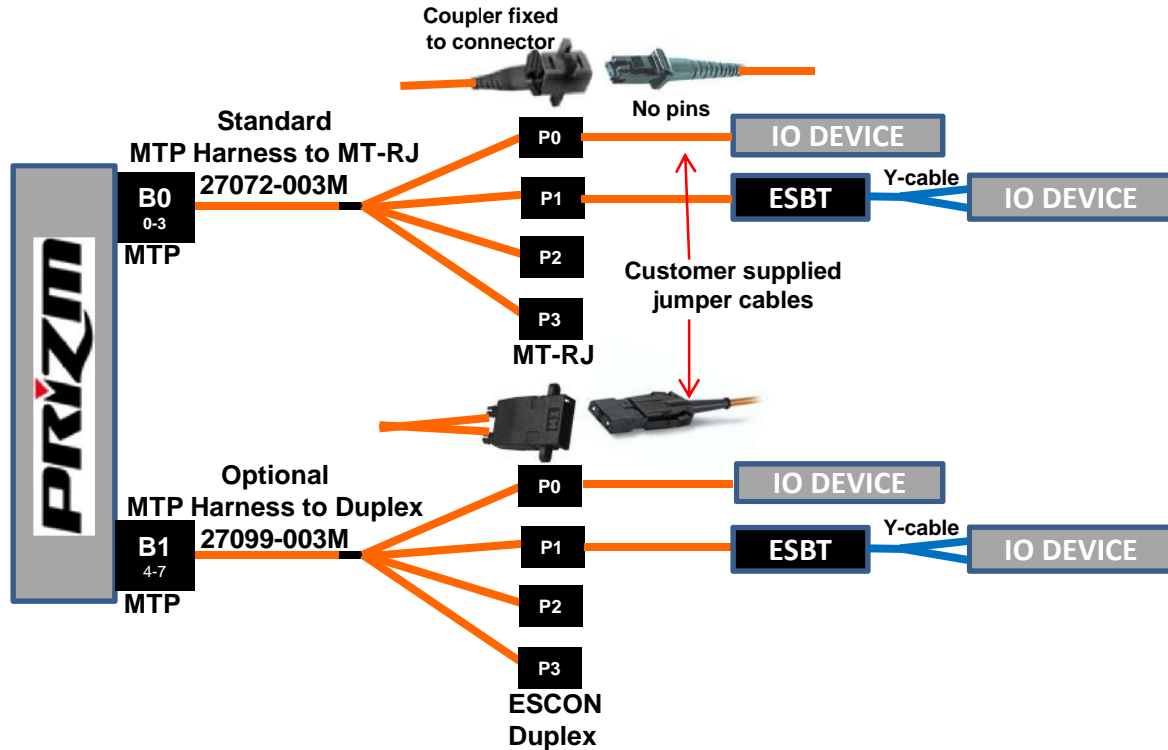
ESCON Harness connects to B0 and/or B1 and fans out to four port connections.

Note:

Prizm may be shipped with both Singlemode (longwave LX, 1310 nm) optics which can be identified by a **BLUE** locking bail, and Multimode (shortwave SX, 850nm) optics which can be identified by a **BLACK** locking bail. It is the responsibility of the installer to ensure proper optics are used. (Alternate optics are shipped in a BLACK accessory box)



Prizm/ESBT ESCON Cabling



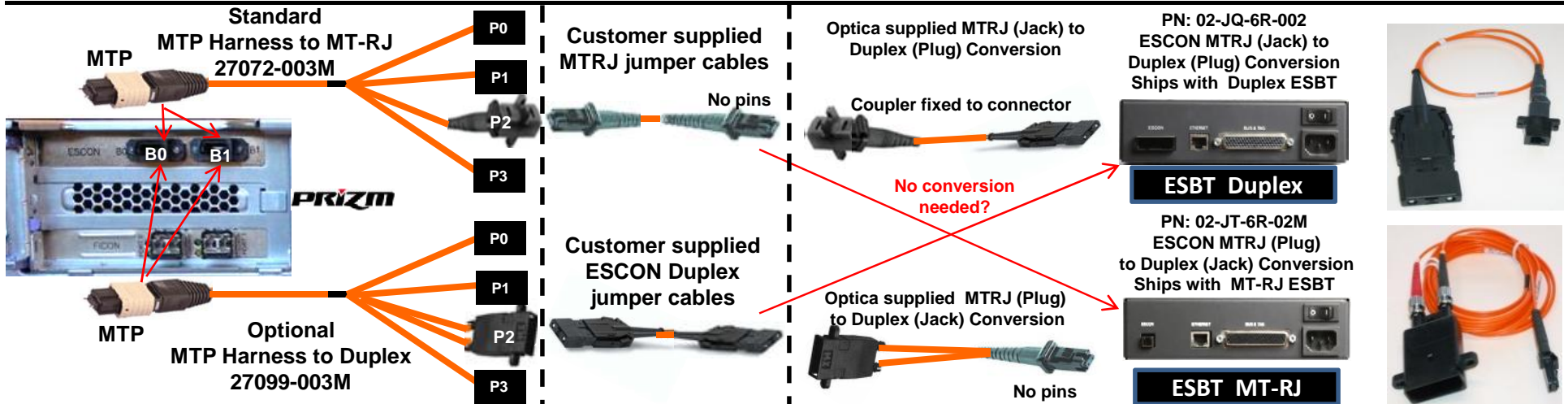
Standard
MTP Harness to MT-RJ
PN: 27072-003M



Optional
MTP Harness to Duplex
PN: 27099-003M



Connectors and Conversion Cables



IOCDs Example Supporting Prizm 2:8 (FICON Switched)

```

ID      MSG2='SYSS.IODF51 - 2008-02-27 15:47',SYSTEM=(2094,1), *
      TOK=('Z9HDC2',008000069B902094154706160108058F00000000,0*
      0000000,'08-02-27','15:47:06','SYSS','IODF51')
RESOURCE PARTITION=((CSS(0),(A000,5),(B430,7),(D000,1),(D100,2*
      ),(D200,3),(E300,4),(ICFB,F),(MVSR,8),(RESP,6))), *
      MAXDEV=((CSS(0),65280,0))

CHPID  PATH=(CSS(0),34),SHARED, *
      PARTITION=((A000,B430,D000,D100,D200,E300,MVSR,RESP),(=*
      ),SWITCH=02,PCHID=1D2,TYPE=FC

CHPID  PATH=(CSS(0),35),SHARED, *
      PARTITION=((A000,B430,D000,D100,D200,E300,MVSR,RESP),(=*
      ),SWITCH=03,PCHID=1D3,TYPE=FC

CNTLUNIT CUNUMBR=0510,PATH=((CSS(0),34,35)),CUADD=0, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=510,UNITADD=00,CUNUMBR=(0510),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0511,PATH=((CSS(0),34,35)),CUADD=10, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=511,UNITADD=00,CUNUMBR=(0511),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0512,PATH=((CSS(0),34,35)),CUADD=20, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=512,UNITADD=00,CUNUMBR=(0512),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0513,PATH=((CSS(0),34,35)),CUADD=30, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=513,UNITADD=00,CUNUMBR=(0513),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0514,PATH=((CSS(0),34,35)),CUADD=40, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=514,UNITADD=00,CUNUMBR=(0514),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0515,PATH=((CSS(0),34,35)),CUADD=50, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=515,UNITADD=00,CUNUMBR=(0515),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0516,PATH=((CSS(0),34,35)),CUADD=60, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=516,UNITADD=00,CUNUMBR=(0516),STADET=Y, *
      UNIT=3590

CNTLUNIT CUNUMBR=0517,PATH=((CSS(0),34,35)),CUADD=70, *
      UNITADD=((00,016)),LINK=((CSS(0),020E,030E)),UNIT=3590 *
IODEVICE ADDRESS=517,UNITADD=00,CUNUMBR=(0517),STADET=Y, *
      UNIT=3590
    
```

How to produce IOCDs Report

HCD - ID, RESOURCE PARTITION, CHPID PATH, CNTLUNIT CUNUMBR, IODEVICE ADDRESS.

- From your TSO session's Master Application Menu select HC HCD
- Hardware Configuration Definition.
- In the I/O definition file field type the name of the currently active IODF and select option 2 to activate or process configuration data.
- From the Activate or Process Configuration Data menu select 3 to build an IOCP input dataset.
- Select the appropriate processor by placing a '/' in the appropriate field in front of the processor ID and hit enter to continue.
- Enter a title in the Title1 field and the IOCP destination dataset name. Ex. 'USERID.IODF02.JAN2909' and hit enter; this will submit the job to create the IOCP dataset. - You can then download the newly created dataset using your 3270 emulation or via FTP.

Prizm Port B0,P0 (Port 0)

Prizm Port B0,P1 (Port 1)

Prizm Port B0,P2 (Port 2)

Prizm Port B0,P3 (Port 3)

Prizm Port B1,P0 (Port 4)

Prizm Port B1,P1 (Port 5)

Prizm Port B1,P2 (Port 6)

Prizm Port B1,P3 (Port 7)

IOCDs Example Supporting Prizm 2:8 (No FICON Switch / Direct Connect)

```

ID MSG2='SYSS.IODF51 - 2008-02-27 15:47',SYSTEM=(2094,1), *
  TOK=('Z9HDC2',008000069B902094154706160108058F00000000,0*
    0000000,'08-02-27','15:47:06','SYSS','IODF51')
  RESOURCE PARTITION=((CSS(0),(A000,5),(B430,7),(D000,1),(D100,2*
    ),(D200,3),(E300,4),(ICFB,F),(MVSr,8),(RESP,6))), *
  MAXDEV=((CSS(0),65280,0))

  CHPID PATH=(CSS(0),34),SHARED, *
    PARTITION=((A000,B430,D000,D100,D200,E300,MVSR,RESP),(=)*
    ), PCHID=1D2,TYPE=FC
  CHPID PATH=(CSS(0),35),SHARED, *
    PARTITION=((A000,B430,D000,D100,D200,E300,MVSR,RESP),(=)*
    ),PCHID=1D3,TYPE=FC

  CNTLUNIT CUNUMBR=0510,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=0,UNIT=3590
  IODEVICE ADDRESS=510,UNITADD=00,CUNUMBR=(0510),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0511,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=10,UNIT=3590
  IODEVICE ADDRESS=511,UNITADD=00,CUNUMBR=(0511),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0512,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=20,UNIT=3590
  IODEVICE ADDRESS=512,UNITADD=00,CUNUMBR=(0512),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0513,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=30,UNIT=3590
  IODEVICE ADDRESS=513,UNITADD=00,CUNUMBR=(0513),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0514,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=40,UNIT=3590
  IODEVICE ADDRESS=514,UNITADD=00,CUNUMBR=(0514),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0515,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=50,UNIT=3590
  IODEVICE ADDRESS=515,UNITADD=00,CUNUMBR=(0515),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0516,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=60,UNIT=3590
  IODEVICE ADDRESS=516,UNITADD=00,CUNUMBR=(0516),STADET=Y, *
    UNIT=3590
  CNTLUNIT CUNUMBR=0517,PATH=((CSS(0),34,35)), *
    UNITADD=((00,016)),CUADD=70,UNIT=3590
  IODEVICE ADDRESS=517,UNITADD=00,CUNUMBR=(0517),STADET=Y, *
    UNIT=3590
  
```

How to produce IOCDs Report

HCD - ID, RESOURCE PARTITION, CHPID PATH, CNTLUNIT CUNUMBR, IODEVICE ADDRESS.

- From your TSO session's Master Application Menu select HC HCD
- Hardware Configuration Definition.
- In the I/O definition file field type the name of the currently active IODF and select option 2 to activate or process configuration data.
- From the Activate or Process Configuration Data menu select 3 to build an IOCP input dataset.
- Select the appropriate processor by placing a '/' in the appropriate field in front of the processor ID and hit enter to continue.
- Enter a title in the Title1 field and the IOCP destination dataset name. Ex. ' USERID.IODF02.JAN2909' and hit enter; this will submit the job to create the IOCP dataset. - You can then download the newly created dataset using your 3270 emulation or via FTP.

Prizm Port B0,P0 (Port 0)

Prizm Port B0,P1 (Port 1)

Prizm Port B0,P2 (Port 2)

Prizm Port B0,P3 (Port 3)

Prizm Port B1,P0 (Port 4)

Prizm Port B1,P1 (Port 5)

Prizm Port B1,P2 (Port 6)

Prizm Port B1,P3 (Port 7)

Customer Management of Prizm

Prizm Management

- Prizm is managed via a browser-based GUI
- Customer personnel can manage and monitor Prizm via any workstation attached to the customer's internal LAN.
- No client software or application required

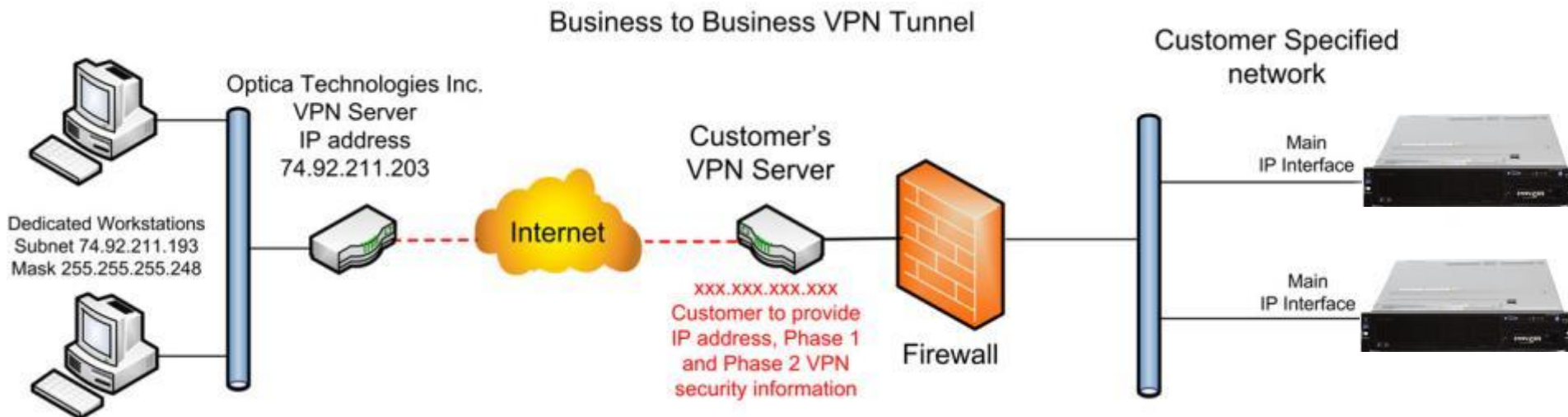
Prizm has two LAN interfaces: NIC1 and NIC2

- NIC1 is used exclusively for on-site access by a service technician
- NIC2 is used by the customer for local access to the Prizm and/or by Optica for remote support access to the Prizm.

Optica Service Access Options for Prizm

There are 3 possible service access scenarios for Optica (in order of preference):

- Remote VPN and Customer has local LAN access to Prizm
Optica is given secure VPN access to Prizm units for providing the optimal level of maintenance and support to the customer. Remote VPN access allows Optica technicians to proactively and efficiently perform routine health checks and capture diagnostic and log information for troubleshooting in the event of a problem.
- No Remote VPN; Customer has local LAN access to Prizm
Without VPN access, remote desktop sessions are the next best alternative using WebEx or similar application. Optica Support Engineers can remotely assist with Prizm management and/or support with coordination and oversight by customer personnel. In the absence of a WebEx session, Optica must rely on the customer to access the Prizm unit(s) independently to capture and email the necessary support information.
- No Remote VPN; No local LAN access to Prizm
Access to Prizm is not available via VPN or local LAN connectivity and therefore can only be accomplished via a PC/laptop directly attached to the NIC1 port of Prizm. Optica provides telephone support to on-site personnel to collect and email the necessary support information to Optica.



Optica requires access to HTTP(80) and SSH (22).

VPN Tunnel Phase 1 and Phase 2 parameters

Listed below are the parameters recommended for the Phase 1 and Phase 2 VPN settings. The parameters can be adapted to meet the customer's requirements. The customer should also provide the shared secret (pre-shared key) for Phase 1.

VPN Phase 1 Policy

Optica IP address:	74.92.211.203
Exchange mode:	Main or Agressive
Encryption:	AES 256
Authentication:	SHA-1
Auth. Method:	pre shared key (to be provided by the customer)
DH Group:	Group 2 (1024bit)
SA Lifetime:	28800 seconds

VPN Phase 2 Policy

Remote Endpoint:	Customer VPN IP address
Remote Encryption Domain:	74.92.211.193 mask 255.255.255.248 (Optica Technologies Support Subnet)
Local Encryption Domain:	To be set by the customer to include IP addresses for locally attached Prizm units
SA Lifetime:	3600 seconds
Encryption algorithm:	AES 256
Integrity algorithm:	SHA-1