



## BENEFITS

- VPX data/expansion plane support for Gen-2, 6.25 Gbaud backplanes compatible with:
  - > Serial RapidIO® (SRIO) Gen-2
  - > InfiniBand® DDR
  - > PCI Express® (PCIe) Gen-2
- VPX data/expansion plane support for Gen-1, 3.125 Gbaud backplanes compatible with:
  - > SRIO Gen-1
  - > 10 GbE (10Gbase-BX4, 10Gbase-KX4)
  - > PCIe Gen-1
- Central, distributed and pass-through topologies
- 3U and 6U with varied slot counts
- Compatible with Atrenne lab development chassis and ready for deployment in rugged applications.

# GEN-1/2 OpenVPX BACKPLANES

This product family is part of the industry-leading Atrenne's product line of high performance chassis and backplanes.

## OVERVIEW

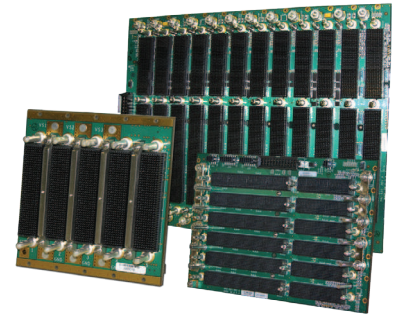
Atrenne, a Celestica company, offers a wide range of high performance backplanes, with 6U, 3U, and hybrid 6U/3U models available. Our Gen-2 backplanes are part of an innovative product family that provides an end-to-end solution for 20 Gigabit systems, while our Gen-1 backplanes are part of a product family that offers an end-to-end solution for 10 Gigabit systems.

Designed to the demanding signal integrity requirements of the VITA 68 VPX™ compliance channel draft standard, these backplanes offer the highest signal integrity in the industry and are typically used in air-cooled or conduction-cooled development chassis. Atrenne can also design application-specific configurations to meet your individual requirements.

Please see our new Gen-3>10.3 Gbaud OpenVPX™ Backplanes Data Sheet for even higher performance backplanes.

## FEATURES

- VITA 65 OpenVPX-compliant backplanes
- VITA 46/VITA 48 VPX REDI-compliant
- VITA 46.10 RTM connectors
- Multiple backplane profiles available
- Provisions for mechanical stops to prevent mis-insertion of payload cards
- Stiffeners placed every other slot to ensure backplane rigidity
- Signal integrity-compliant per VITA 68, up to 6.25 Gbaud
- Gen-2 6.25 Gbaud backplanes compatible with Serial RapidIO® (SRIO) Gen-2, InfiniBand® DDR, and PCI Express® (PCIe) Gen-2 - 2 level backdrill on data plane and expansion plane fabrics
- Gen-1 3.125 Gbaud backplanes compatible with SRIO Gen-1, 10 GbE (10Gbase-BX4, 10Gbase-KX4), and PCIe Gen-1 - 1 level backdrill on OpenVPX data plane and expansion plane fabrics
- Optional rear transition connectors
- Optional conformal coating
- Keying and alignment per VITA 65 and VITA 46
- Durability: mate-unmate for 200 cycles
- Non-Volatile Memory Read Only (NVMRO) signal (jumper selectable)
- Optional battery backup input, jumperable to +3.3V
- SYSCON selectable - set to 1st VPX slot as default
- Contact factory for fiber optic feed-thru backplanes per VITA 66.x
- Contact factory for alternate connectors such as RT2-R



**TABLE 1: TECHNOLOGY OVERVIEW**

PHYSICAL	
3U Height	5.067" (except 3U 12-slot backplane, which is 5.57" H)
6U Height	10.317" (except 6U 16-slot backplane, which is 11.3" H)
Backplane Material	High performance Nelco 4000-13EP or Isola FR-408HR with 1-2 levels backdrill
PHYSICAL	
VITA 68	ANSI/VITA 46.0-2007 (R2013)
ANSI/VITA 65-2010 (R2012)	ANSI/VITA 46.10-2009
ANSI/VITA 46.1-2007 (R2013)	ANSI/VITA-1-1994 (R2002) VME64
ANSI/VITA 46.3-2012	ANSI/VITA-1.1-1997 (R2003) VME64 Extensions
ANSI/VITA 46.4-2012	ANSI/VITA 48.0-2010
ANSI/VITA 46.6-2012	ANSI/VITA 48.1-2010
ANSI/VITA 46.7-2012	ANSI/VITA 48.2-2010
VITA 46.8-VDSTU	-
ENVIRONMENTAL	
ANSI/VITA 47 Class EAC6	
Flammability Rating	UL94-V0
Temperature Ranges	Operating: -40 to +85°C Storage: -55 to +100°C
SAFETY	
Regulatory	Designed to meet UL, CSA and CE requirements
Power Rails Current Carrying	All backplanes meet VITA 65 OpenVPX recommended current levels except that 024-901-12-CEN1-01 is limited to 120A each on VS1 and VS2

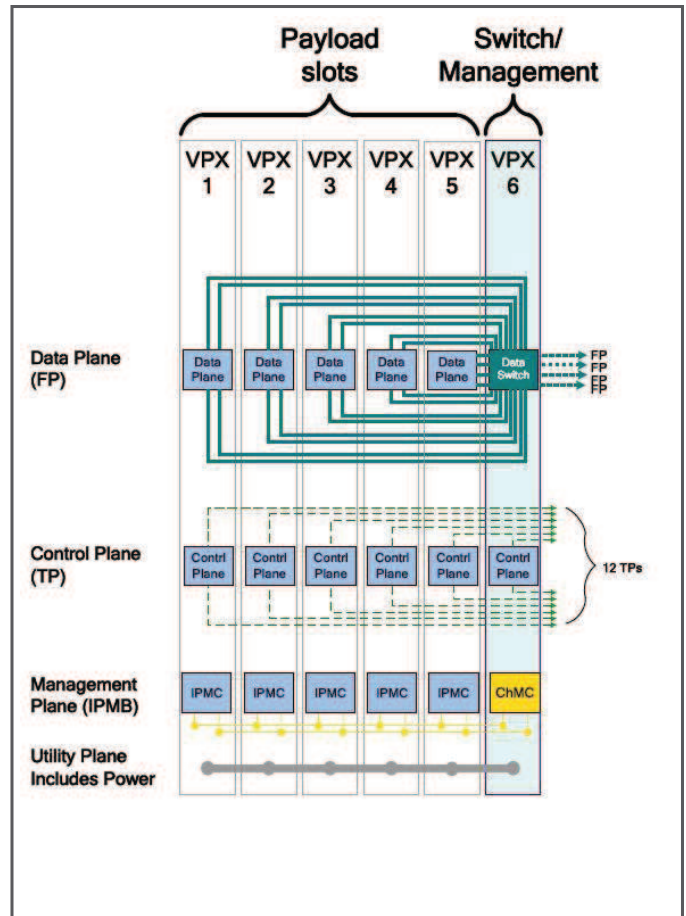


Figure 2: 024-900-06-CEN1-01 Gen-2 6.25 Gbaud

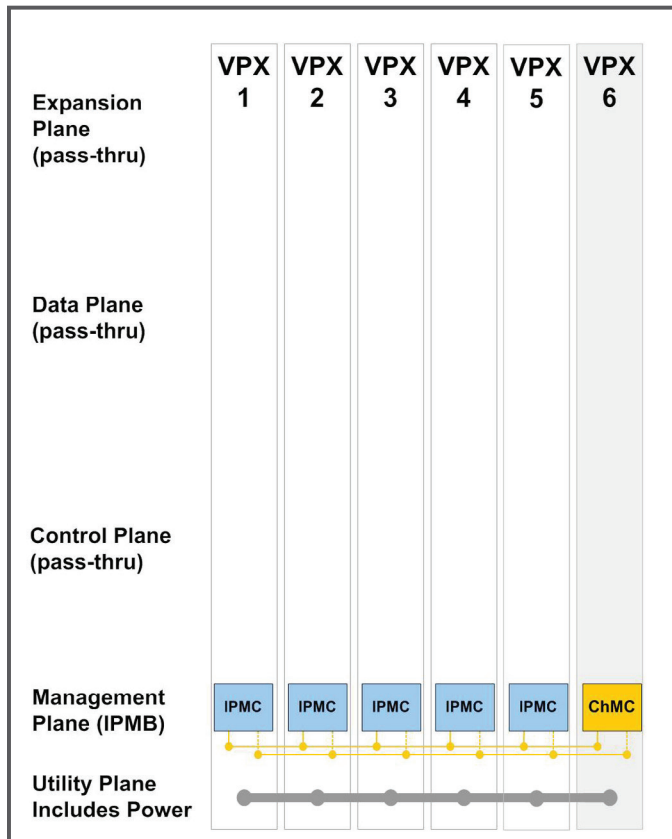


Figure 1: 024-900-06-X1-01 - Pass-thru

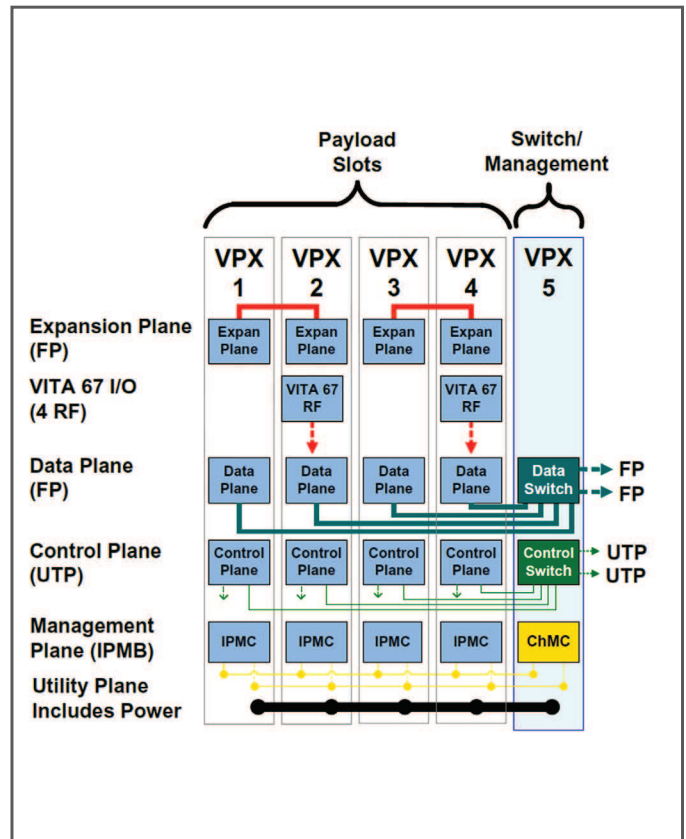


Figure 3: 024-901-05-CEN1-01 Gen-2 6.25 Gbaud

**TABLE 2: STANDARD VPX BACKPLANE PART NUMBER MATRIX SUPPORTING GEN-2 6.25 GBAUD DATA RATES**

PART NUMBER	BACKPLANE DESCRIPTION	BACKPLANE PROFILE	PAYLOAD SLOT PROFILE	PAYLOAD MODULE PROFILE	SWITCH SLOT PROFILE	SWITCH MODULE PROFILE
024-901-06-CEN1-01	3U, 6-slot VPX REDI 1" pitch (7 slots wide), 5 payload slots, 1 data and control switch slot, star fabric topology, expansion plane, 6.25 Gbaud	BKP3-CEN06-15.2.2-3	SLT3-PAY-1F2F2U-14.2.2	MOD3-PAY-1F2F2U-16.2.2-(all)	SLT3-SWH-6F6U-14.4.1	MOD3-SWH-6F6U-16.4.1-(all)
024-901-06-DIS1-01	3U, 6-slot VPX REDI 1" pitch (7 slots wide), 5 payload slots, daisy-chain data fabric slots 1-5, 1 uncommitted control switch slot, 6.25 Gbaud	BKP3-DIS06-15.2.7-3	SLT3-PAY-2F2T-14.2.5	MOD3-PAY-2F2T-16.2.5-(all) & MOD3-PAY-2F1F2U-16.2.1-(all) & MOD3-PAY-2F2U-16.2.3-(all) & MOD3-PAY-2F-16.2.7-(all)	SLT3-SWH-16T-14.4.6 & any other slot profile	MOD3-SWH-16T-16.4.7-1 and any other module profile
024-901-05-CEN1-01	3U, 5-slot VPX REDI 1" pitch (6 slots wide), 2 standard payload slots, 2 RF VITA 67.1 payload slots, 1 control switch slot, star fabric topology, expansion plane, 6.25 Gbaud	BKP3-CEN05-15.3.3-3	Slots 1 and 3: SLT3-PAY-1F1F2U-14.2.4  Slots 2 and 4: SLT3-PAY-1F1F2U4R-14.6.1	Slots 1 and 3: MOD3-PAY-1F1F2U-16.2.4-(all)  Slots 2 and 4: MOD3-PAY-1F1F2U4R-16.6.1-(all)	SLT3-SWH-6F6U-14.4.1	MOD3-SWH-6F6U-16.4.1-(all)
024-901-06-01	3U, 6-slot VPX REDI 1" pitch (7 slots wide), no data plane, control plane, or expansion plane fabric connectivity, all fabric signals pass through to RTM connectors for users, 6.25 Gbaud (10.3 Gbaud limited use)	N/A open for user to implement connectivity using cables.	All	All	All	All
024-901-12-CEN1-01	3U, 12-slot VPX REDI 1" pitch (12 slots wide), 10 payload slots, 2 data and control switch slots, star fabric topology, 6.25 Gbaud	BKP3-CEN12-15.2.6-3	SLT3-PAY-2F2U-14.2.3	MOD3-PAY-2F2U-16.2.3-(all) & MOD3-PAY-2F1F2U-16.2.1-(all) & MOD3-PAY-1F2F2U-16.2.2-(all) & MOD3-PAY-1F1F2U-16.2.4-(all)	SLT3-SWH-6F6U-14.4.1	MOD3-SWH-6F6U-16.4.1-(all)
024-900-16-CEN1-01	6U, 16-slot VPX REDI 1" pitch (16 slots wide), 14 payload slots, 2 data and control switch slots, dual star fabric topology, expansion plane, 6.25 Gbaud	BKP6-CEN16-11.2.2-3	SLT6-PAY-4F1Q2U2T-10.2.1	MOD6-PAY-4F1Q2U2T-12.2.1-(all)	SLT6-SWH-20U19F-10.4.1	MOD6-SWH-20U19F-12.4.1-(all)
024-900-05-CEN1-01	6U, 5-slot VPX REDI 1" pitch (6 slots wide), 4 payload slots, 1 data and control switch slot, star fabric topology, expansion plane, 6.25 Gbaud	BKP6-CEN05-11.2.5-3	SLT6-PAY-4F1Q2U2T-10.2.1	MOD6-PAY-4F1Q2U2T-12.2.1-(all)	SLT6-SWH-16U20F-10.4.2	MOD6-SWH-16U20F-12.4.2-(all)
024-900-06-DIS1-01	6U, 6-slot VPX REDI 1" pitch (7 slots wide), 5 payload slots, mesh data fabric slots 1-5, 1 control switch slot, 6.25 Gbaud	BKP6-DIS06-11.2.10-3	SLT6-PAY-4F2T-10.2.2	MOD6-PAY-4F2T-12.2.2-(all) & MOD6-PAY-4F1Q2U2T-12.2.1-(all)	SLT6-SWH-4F24T-10.4.4	MOD6-SWH-4F24T-12.4.4-(all)
024-900-06-CEN1-01	6U, 6-slot VPX REDI 1" pitch (7 slots wide), 5 payload slots, 1 data switch slot, star fabric topology, 6.25 Gbaud	BKP6-CEN06-11.2.8-3	SLT6-PAY-4F2T-10.2.2	MOD6-PAY4F2T-12.2.2-(1,2,4,5) & MOD6-PA-4F1Q2U2T-12.2.1-(1,3,5-8) & MOD6-PAY8F-12.2.3-(1,3,5) & MOD6-PAY4F16U-12.2.4-(1,3,4,5)	SLT6-SWH-24F-10.4.3	MOD6-SWH-24F-10.4.3-(all)
024-900-06-X1-01	6U, 6-slot VPX REDI 1" pitch (7 slots wide), no data plane, control plane, or expansion plane fabric connectivity, all fabric signals pass through to RTM connectors for users, 6.25 Gbaud (10.3 Gbaud limited use)	N/A Open for user to implement connectivity using cables	All	All	All	All

Note: Our Gen-2 backplanes also support lower speed Gen-1 payloads.

**TABLE 3: STANDARD VPX BACKPLANE PART NUMBER MATRIX SUPPORTING GEN-1 3.125 GBAUD DATA RATES**

PART NUMBER	BACKPLANE DESCRIPTION	BACKPLANE PROFILE	PAYLOAD SLOT PROFILE	PAYLOAD MODULE PROFILE	SWITCH SLOT PROFILE	SWITCH MODULE PROFILE
024-901-05-01	3U, 5-slot VPX REDI 1" pitch (5 slots wide), 5 payload slots, mesh data fabric slots 1-5, 3.125 Gbaud	Standard	N/A	N/A	SLT3-SWH-4F-14.4.4	MOD3-SWH-4F-16.4.5-(1,3,4)
024-902-05a-01	3U, 5-slot VPX REDI 0.8" pitch (6 slots wide), 5 payload slots, daisy-chain data fabric slots 1-5, 1 control switch slot, 3.125 Gbaud	Standard	SLT3-PAY-2F2T-14.2.5 (0.8" pitch)	MOD3-PAY-2F2T-16.2.5-(1,2,4,5) - (0.8" pitch) & MOD3-PAY-2F1F2U-16.2.1-(1-3,5-8) - (0.8" pitch) & MOD3-PAY-2F2U-16.2.3-(1,2,4,5) - (0.8" pitch) & MOD3-PAY-2F-16.2.7-(1,3,4)-(0.8" pitch)	N/A	N/A
024-900-05-01	6U, 5-slot VPX REDI 1" pitch (6 slots wide), 5 payload slots, mesh data fabric slots 1-5, 3.125 Gbaud	BKP6-DIS05-11.2.16-1	SLT6-PER-4F-10.3.1	MOD6-PER-4F-12.3.1 & MOD6-PAY-4F2T-12.2.2-(1,2,4,5) & MOD6-PAY-4F1Q2U2T-12.2.1-(1-3,5-8) & MOD6-PAY-8F-12.2.3-(1,3,5) & MOD6-PAY-4F16U-12.2.4-(1,3,4,5)	N/A	N/A
024-900-12-01	6U, 12-slot VPX REDI 1" pitch (13 slots wide), VMEbus on VPX J2, 12 payload slots, partial mesh data fabric slots 1-12, 3.125 Gbaud	Standard	SLT6-BRG-4F1V2T-10.5.1	MOD6-BRG-4F1V2T-12.5.1-(1,2,4,5) & MOD6-BRG-4F1V-12.5.2-(1,4,5)	N/A	N/A
024-900-12-DIS1-01	6U, 12-slot VPX REDI 1" pitch (13 slots wide), 12 payload slots, partial mesh data fabric slots 1-12, 3.125 Gbaud	Standard	SLT6-PAY-4F2T-10.2.2	MOD6-PAY-4F2T-12.2.2-(1,2,4,5) & MOD6-PAY4F1Q2U2T-12.2.1-(1-3,5-8) & MOD6-PAY-8F-12.2.3-(1,3,5) & MOD6-PAY-4F16U-12.2.4-(1,3,4,5)	N/A	N/A
024-900-06-01	6U, 6-slot VPX REDI 1" pitch (7 slots wide), 5 payload slots, mesh data fabric slots 1-5, 1 uncommitted switch slot, 3.125 Gbaud	BKP6-DIS06-11.2.15-1	SLT6-PAY-4F2T-10.2.2	MOD6-PAY-4F2T-12.2.2-(1,2,4,5) & MOD6-PAY-4F1Q2U2T-12.2.1-(1-3,5-8) & MOD6-PAY-8F-12.2.3-(1,3,5) & MOD6-PAY-4F16U-12.2.4-(1,3,4,5)	SLT6-SWH-4F24T-10.4.4	MOD6-SWH-4F24T-12.4.4-(all) and any other module profile
024-999-01	6U, 11-slot Hybrid VME64x-VPX REDI 1" pitch (12 slots wide), 2 VME64x slots, VMEbus on VPX J2, 9 VPX payload slots, 5-slot mesh data fabric and (2) 2-slot Quad fat pipe data fabric, 3.125 Gbaud	Hybrid Standard	SLT6-BRG-4F1V2T-10.5.1	MOD6-BRG-4F1V2T-12.5.1-(1,2,4,5) & MOD6-BRG-4F1V-12.5.2-(1,4,5)	N/A	N/A

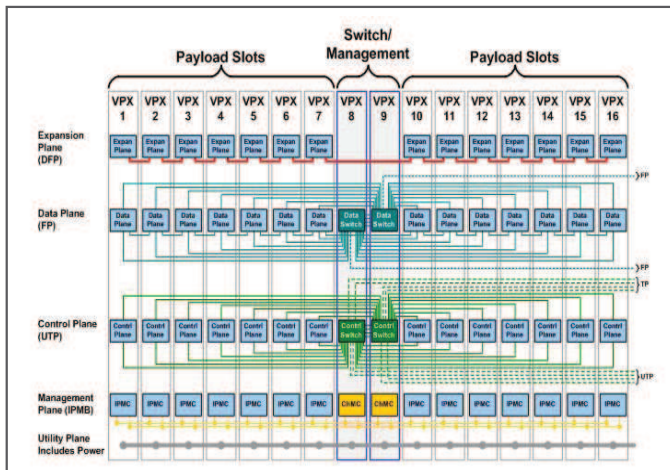


Figure 4: 024-900-16-CEN1-01 Gen-2 6.25 Gbaud

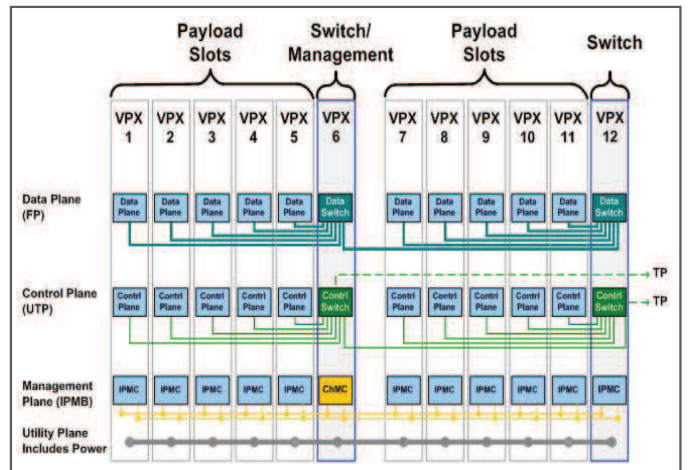


Figure 5: 024-901-12-CEN1-01 Gen-2 6.25 Gbaud

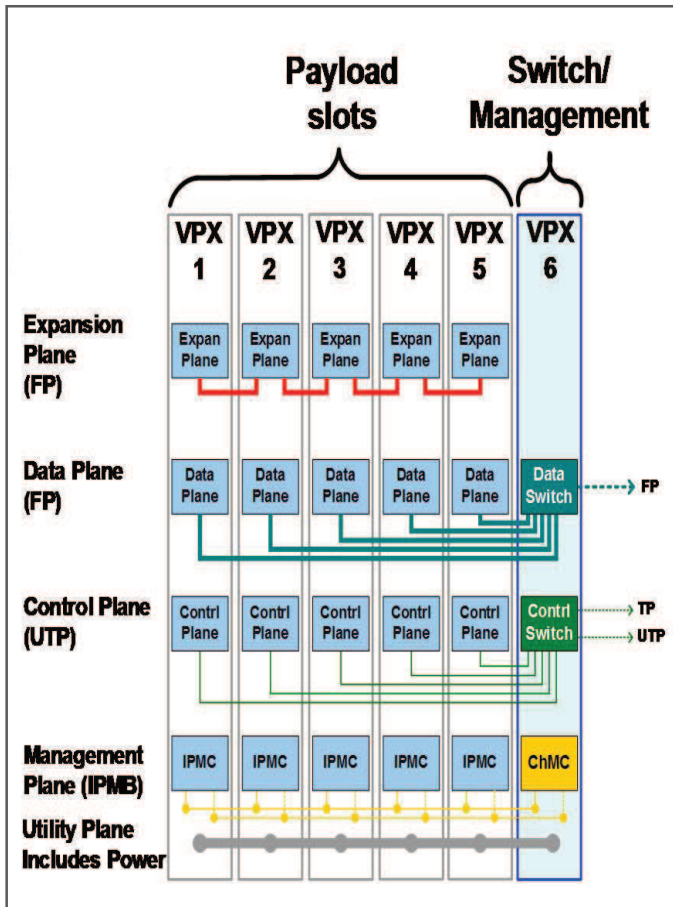


Figure 6: 024-901-06-CEN1-01 Gen-2 6.25 Gbaud

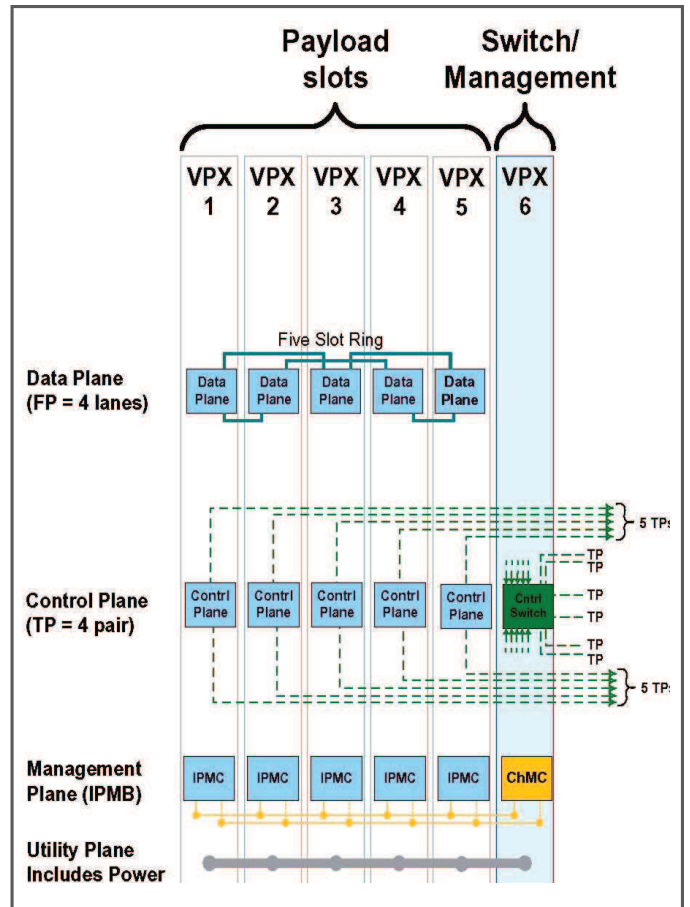


Figure 7: 024-901-06-DIS1-01 Gen-2 6.25 Gbaud

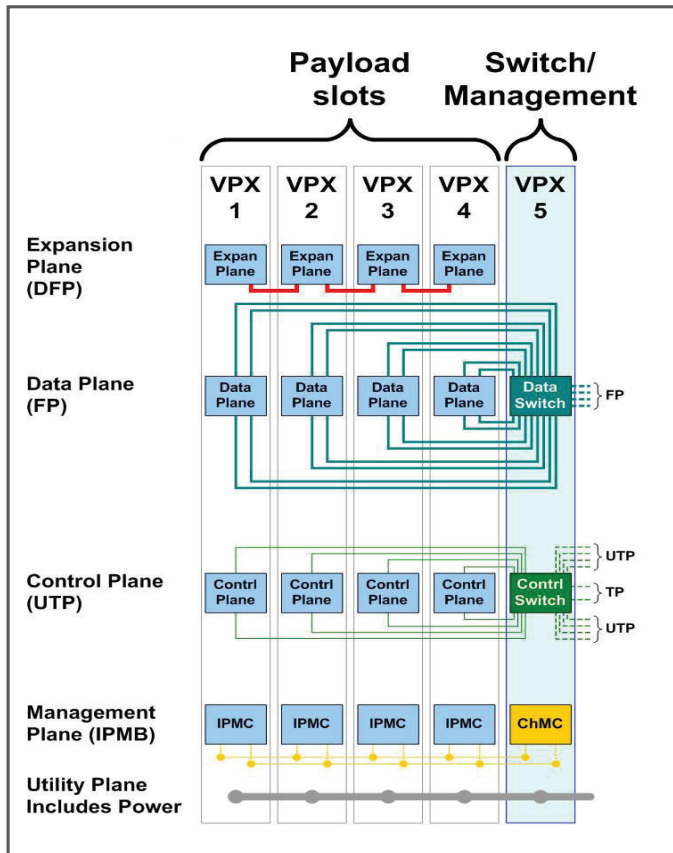


Figure 8: 024-900-05-CEN1-01 Gen-2 6.25 Gbaud

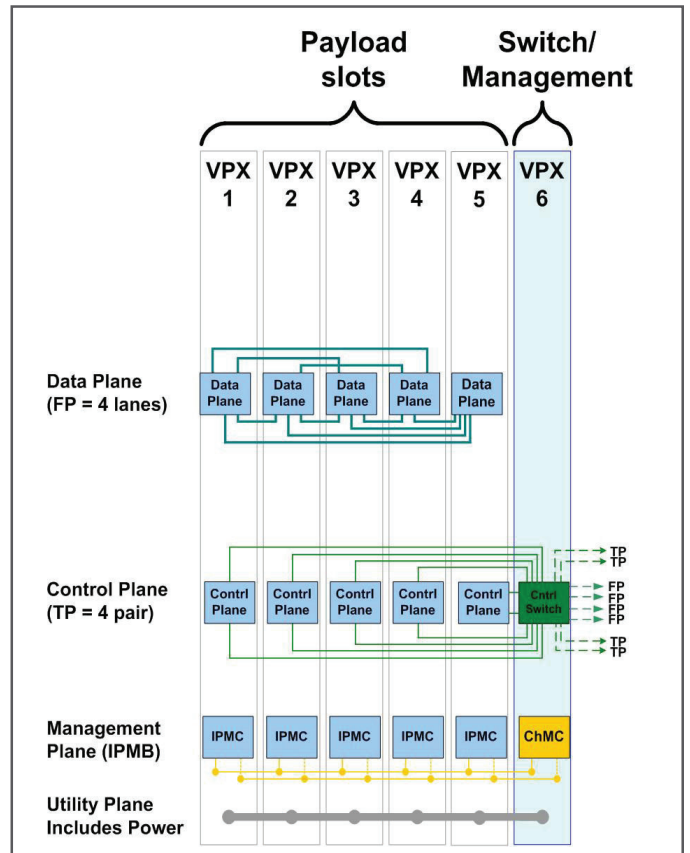


Figure 9: 024-900-06-DIS1-01 Gen-2 6.25 Gbaud

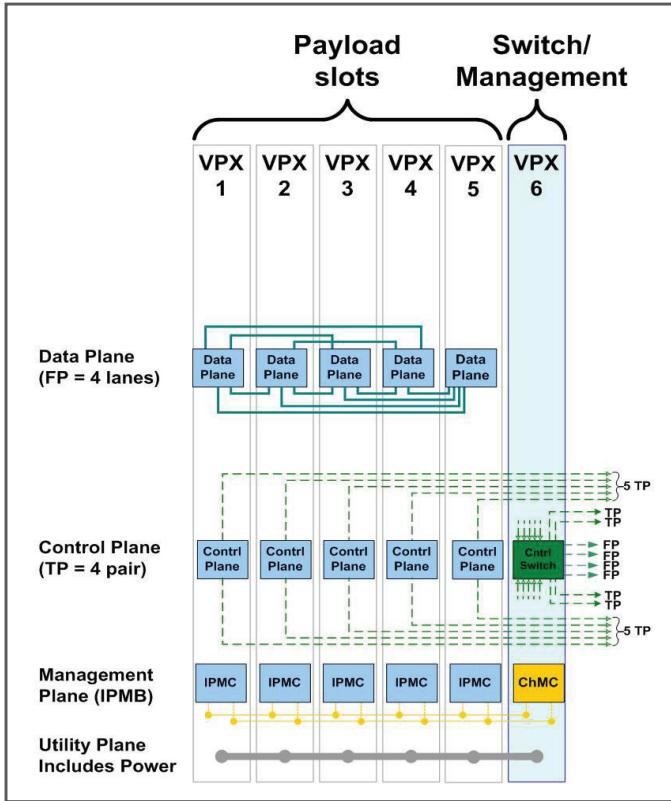


Figure 10: 024-900-06-01 Gen-1 3.125 Gbaud

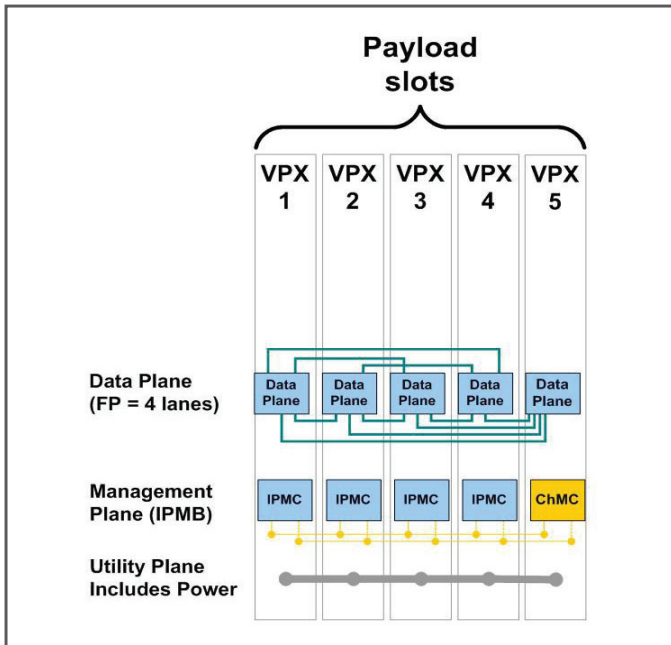


Figure 11: 024-900-05-01 Gen-1 3.125 Gbaud

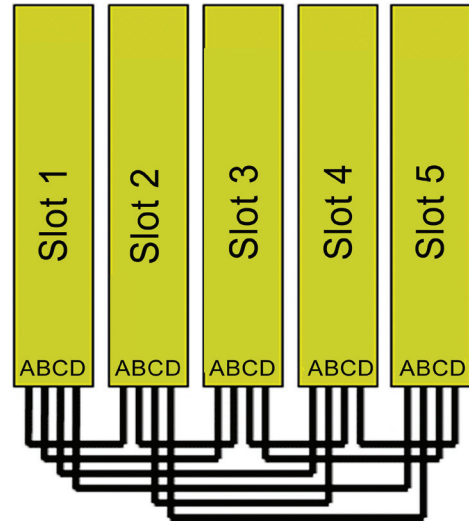


Figure 12: 024-901-05-01 Gen-1 3.125 Gbaud

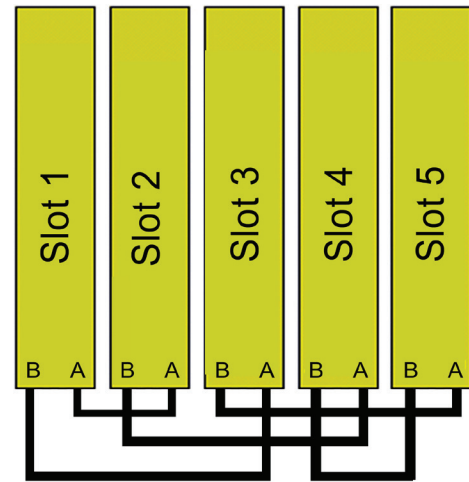


Figure 13: 024-902-05A-01 Gen-1 3.125 Gbaud

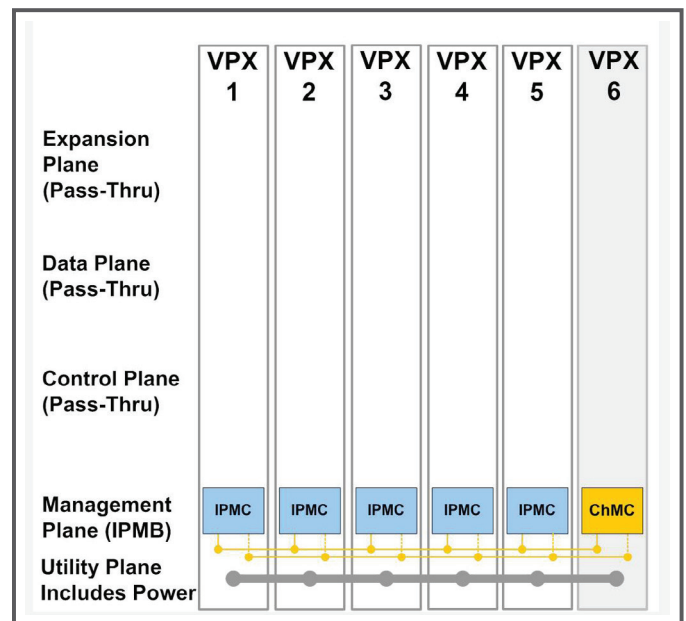


Figure 14: 024-901-06-01 - Pass-thru

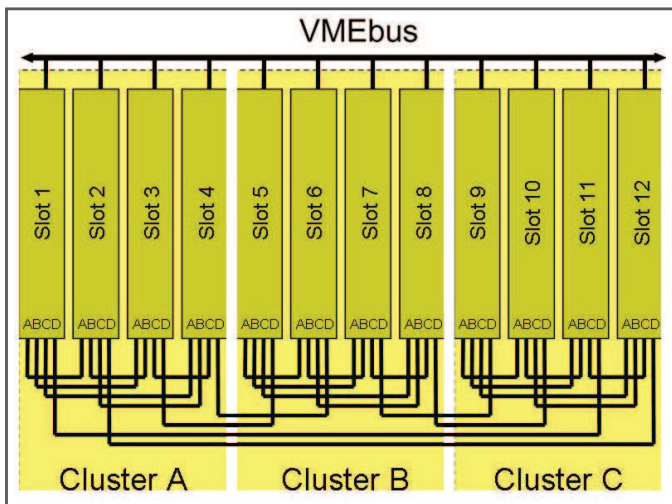
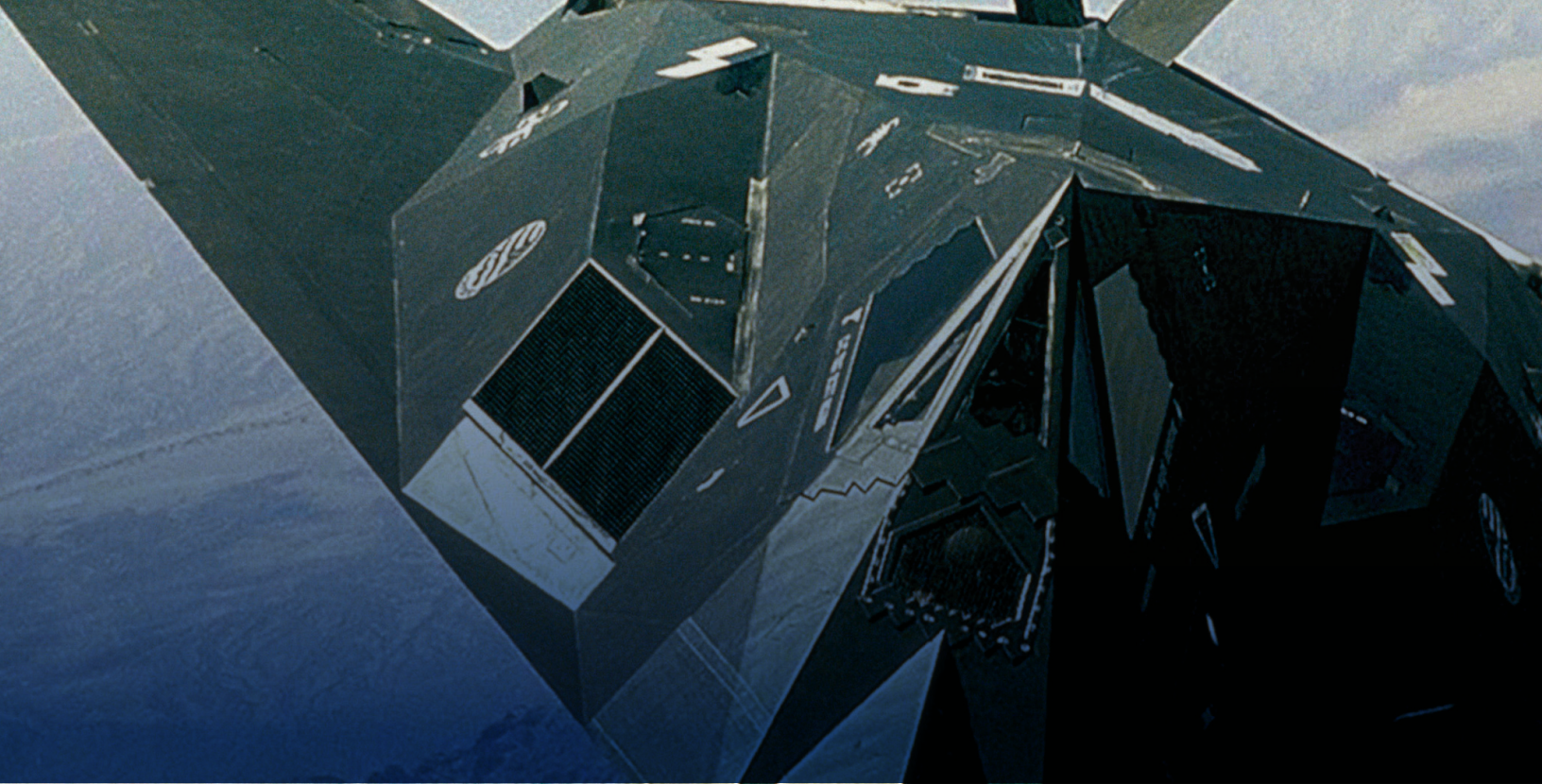


Figure 15: 024-900-12-01 Gen-1 3.125 Gbaud

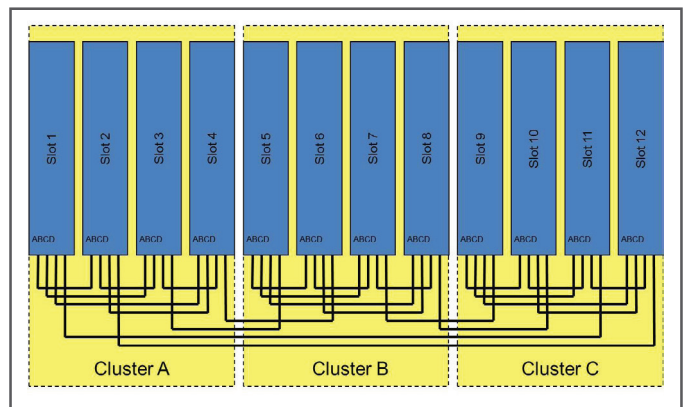


Figure 17: 024-900-12-DIS1-01 Gen-1 3.125 Gbaud

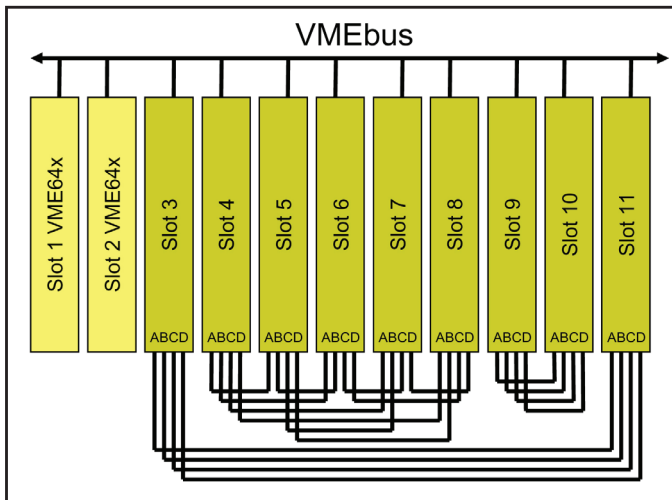


Figure 16: 024-999-01 Gen-1 3.125 Gbaud

## WARRANTY

This product has a one year warranty.

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