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Connect Tech Jetson TX2i, TX2 NX, Nano, Xavier Migration Guide

Moving from Jetson TX2i, TX2 NX, Nano, and Xavier to Jetson Orin/Thor

Document Number:	CTIN-00064
Revision:	0.00
Issue Date:	2026-04-24

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1. Revision History

Revision	Date	Author(s)	Change(s)
0.00	2026-04-24	DP	Initial Release

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3. Introduction

NVIDIA® has accelerated the lifecycle timeline for the Jetson Xavier™ family, including Jetson Xavier™ NX and Jetson AGX Xavier™, as well as Jetson™ TX2i, requiring action within a shorter planning window than previously expected. This guide supports that transition across both hardware and software. It provides migration paths to Jetson Orin™ NX, Jetson AGX Orin™, and Jetson Thor™ T5000, and outlines key considerations including platform architecture, performance, BSP alignment, software compatibility, and development tool availability. It also maps these options to Connect Tech platforms, serving as a clear, practical reference to evaluate next steps and move forward with confidence.

This guide outlines the recommended platform migration paths designed to minimize risk and accelerate deployment. As system requirements may vary, custom solutions are also available - please contact your Connect Tech Account Manager or email contactus@connecttech.com to discuss your specific needs.

4. L4T and JetPack™ Software Summary

Module	Latest JetPack	Latest L4T	Ubuntu	Notes
Jetson TX2 NX	JetPack 4.6.6	L4T 32.7.6	18.04	JetPack 4 declared EOL Nov 2024. No JetPack 5+ support
Jetson Nano	JetPack 4.6.6	L4T 32.7.6	18.04	JetPack 4 declared EOL Nov 2024. No JetPack 5+ support
Jetson TX2i	JetPack 4.6.5	L4T 32.7.5	18.04	JetPack 4 declared EOL Nov 2024. No JetPack 5+ support
Jetson AGX Xavier	JetPack 5.1.5	L4T 35.6.2	20.04	Shared baseline with Jetson AGX Orin (JP5). No JetPack 6 support
Jetson Xavier NX	JetPack 5.1.5	L4T 35.6.2	20.04	Shared baseline with Jetson Orin NX (JP5). No JetPack 6 support
Jetson AGX Orin	JetPack 6.2.1+	L4T 36.4.4+	22.04	Active. Recommended migration target
Jetson Orin NX	JetPack 6.2.1+	L4T 36.4.4+	22.04	Active. Recommended migration target
Jetson Thor T5000/T4000	JetPack 7.1+	L4T 38.2.1	24.04	Active. AGX Orin support planned

Key: L4T 35.x = JetPack 5.x series (Ubuntu 20.04, Kernel 5.10, CUDA 11.4). L4T 36.x = JetPack 6.x series (Ubuntu 22.04, Kernel 5.15, CUDA 12.x). L4T 38.x = JetPack 7.x series (Ubuntu 24.04, Kernel 6.8, CUDA 13.x).

5. Jetson Thor Migration

5.1 L4T Migration

Customers migrating to Jetson Thor should plan for a full software stack transition. Jetson Thor does not share a common JetPack baseline with earlier Jetson platforms (TX2i, TX2 NX, Nano, Xavier NX, AGX Xavier). Jetson Thor introduces a new software platform aligned with the latest JetPack releases, including Ubuntu 24.04, SBSA and an updated compute stack (CUDA™ 13.x+, TensorRT™ 10.13+).

JetPack / L4T	Jetson AGX Orin	Jetson Thor T5000/T4000	AI Stack Highlights
JetPack 6 – Jetson Orin Only (Ubuntu 22.04, Kernel 5.15)			
JetPack 6.0 (L4T 36.3.0)	Supported	n/a	CUDA 12.2 TensorRT 8.6 cuDNN 8.9 VPI 3.1 DeepStream 7.0
JetPack 6.1 (L4T 36.4.0)	Supported	n/a	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 6.2.1 (L4T 36.4.4)	Supported	n/a	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 7 – Jetson Thor Only (Ubuntu 24.04, Kernel 6.8)			
JetPack 7.0 (L4T 38.2.1)	n/a	Supported (Jetson T5000 Only)	CUDA 13.0 TensorRT 10.13 cuDNN 9.12 VPI 4.0 DeepStream 8.0
JetPack 7.1 (L4T 38.4.0)	n/a	Supported	CUDA 13.0 TensorRT 10.13 cuDNN 9.12 VPI 4.0 DeepStream 8.0
JetPack 7.2 (L4T 39.0.0)	Planned	Planned	TBD

** Camera support will vary depending on L4T and module – please contact Connect Tech Support*
*** Supported releases as of 2026-04-27*

5.2 Jetson Thor Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
—	—	**New**	Gauntlet	AGX301	Comparable migration path to Forge (AGX201), 4x CAN, +36V to +60V DC Wide Input Power, 155mm x 126mm, full vision ecosystem support, JetPack 7 enabled
—	—	**New**	Rogue-RX	AGX302	Comparable migration path to Rogue-RX (AGX203), 2x 10GBase-T, 1x 2.5GBase-T, I2S, 4x CAN, +12VDC input, JetPack 7 enabled
—	—	**New**	Anvil-T5	ESG625	Comparable migration path to Anvil (ESG620), 4x CAN, +36V to +60V DC Wide Input Power, 155mm x 126mm, GMSL3, GMSL2, FPD-Link III, SDI, JetPack 7 enabled

6. Jetson AGX Xavier

6.1 L4T Migration

Jetson AGX Orin and Jetson AGX Xavier share JetPack 5.1.5 / L4T 35.6.2 as a common baseline, allowing an initial Orin bring-up without immediately changing the software stack. Upgrading to JetPack 6.x (L4T 36.x) moves the OS to Ubuntu 22.04 and the compute stack to CUDA 12.6 / TensorRT 10.3.

JetPack / L4T	Jetson AGX Xavier	Jetson AGX Orin	AI Stack Highlights
JetPack 5 – Shared Platform (Ubuntu 20.04, Kernel 5.10)			
JetPack 5.1.1 (L4T 35.3.1)	Supported	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.2
JetPack 5.1.2 (L4T 35.4.1)	Supported	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.3
JetPack 5.1.5 (L4T 35.6.2)	Supported	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 VPI 2.4 DeepStream 6.3
JetPack 6 – Jetson Orin Only (Ubuntu 22.04, Kernel 5.15)			
JetPack 6.0 (L4T 36.3.0)	n/a	Supported	CUDA 12.2 TensorRT 8.6 cuDNN 8.9 VPI 3.1 DeepStream 7.0
JetPack 6.1 (L4T 36.4.0)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 6.2.1 (L4T 36.4.4)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1

** Camera support will vary depending on L4T and module – please contact Connect Tech Support*
*** Supported releases as of 2026-04-27*

6.2 Jetson AGX Xavier to Jetson AGX Orin Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
Rogue	AGX101/111	**Upgrade Path**	Rogue for Orin	AGX202	92 × 107 mm (+2mm), +12VDC input only, 1x HDMI, 2x 10GBASE-T, USB 3.2
Rogue	AGX101/111	**Upgrade Path**	Rogue-RX	AGX203	92 x 108.2 mm (+3mm), +12VDC input only, locking connectors
Rogue	AGX101/111	**Upgrade Path**	Rogue-RX XP	AGX207	125 x 108.7 mm, +10-36V wide input, locking connectors
Rudi-AGX	ESG610	**Upgrade Path**	Anvil	ESG620	2x GbE, 2x 10G, 8x GMSL camera support, DisplayPort
Sentry-X	SGX001	**Upgrade Path**	Sentry-X2	ESG630/ESG633	MIL-STD-810H, DO-160H, TPM 2.0, 38999 Rugged connectors
—	—	**New**	Forge	AGX201	155 x 125 mm, 2x GbE, 2x 10G, LTE/5G capable, full featured carrier
—	—	**New**	Anvil-RX	ESG635	MIL-STD-810H, IP67 sealed system, 8x GMSL camera inputs
Rogue-X	AGX103	**Direct Upgrade Unavailable**	—	—	Please contact Connect Tech Sales for alternative offerings
Rogue-X2	AGX108	**Upgrade Path**	Forge	AGX201	While not form-fit compatible, PCIe x4 expansion is available externally through OCuLink

7. Jetson Xavier NX

7.1 L4T Migration

Both modules share JetPack 5.1.2 / L4T 35.4.1 as a common baseline, allowing an initial Orin bring-up without immediately changing the software stack. Upgrading to JetPack 6.x (L4T 36.x) moves the OS to Ubuntu 22.04 and the compute stack to CUDA 12.6 / TensorRT 10.3.

JetPack / L4T	Jetson Xavier NX	Jetson Orin NX/Nano	AI Stack Highlights
JetPack 5 – Shared Platform (Ubuntu 20.04, Kernel 5.10)			
JetPack 5.1.1 (L4T 35.3.1)	Supported	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.2
JetPack 5.1.2 (L4T 35.4.1)	Supported	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.3
JetPack 5.1.5 (L4T 35.6.2)	Supported	Planned	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 VPI 2.4 DeepStream 6.3
JetPack 6 – Jetson Orin Only (Ubuntu 22.04, Kernel 5.15)			
JetPack 6.0 (L4T 36.3.0)	n/a	Supported	CUDA 12.2 TensorRT 8.6 cuDNN 8.9 VPI 3.1 DeepStream 7.0
JetPack 6.1 (L4T 36.4.0)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 6.2.1 (L4T 36.4.4)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1

** Camera support will vary depending on L4T and module – please contact Connect Tech Support*
*** Supported releases as of 2026-04-27*

7.2 Jetson Xavier NX to Jetson Orin NX/Nano Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
—	—	**New**	Falcon	ESG615	IP67 Sealed Vehicle System, 2x 1000BASE-T1, 2x CAN 2.0b/FD, +9-36V (+14V Nominal), 4x GMSL inputs
—	—	**New**	Polaris	ESG604 / ESG608	IP67 Sealed System, +18-48V isolated power input, 4x GMSL inputs
—	—	**New**	Hadron GMSL	NGX018	Alternative Hadron upgrade path with two GMSL2/1 camera inputs
—	—	**New**	Boson-22	NGX021	Alternative Boson upgrade path with four 22-pin MIPI-CSI interfaces
—	—	**New**	Lepton	NGX022	Alternative upgrade path for Rudi-NX FPD-Link III without enclosure
Boson for FRAMOS	NGX007	**Upgrade Path**	Boson for Orin NX	NGX020	Same form-factor, optimized for Orin NX feature set
Hadron	NGX012	**Upgrade Path**	Hadron-DM	NGX024	Same form-factor, Dual 4-Lane MIPI CSI-2 22-Pin Connectors
Photon	NGX002/003	**Module Swap**	Photon (Orin NX)	NGX002/003	NVMe Required
Quark	NGX004/014	**Upgrade Path**	Hadron-DM	NGX024	Same form-factor, optimized for Orin NX feature set, Dual 4-Lane MIPI CSI-2 22-Pin Connectors, wide input power range (+9-60VDC)
Quark (high perf.)	NGX004/014	**Upgrade Path**	Super Hadron-DM	NGX027	Alternative Quark upgrade path. 87.6 x 58.8mm, designed to fully enable Super Mode for Orin NX
Rudi-NX	ESG602	**Upgrade Path**	Rudi-NX	ESG611/ESG612	Optimized for Orin NX feature set and thermal requirements

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
Rudi-NX FPD-Link III	ESG603	**Upgrade Path**	Rudi-NX FPD-Link III	ESG606	Optimized for Orin NX feature set

8. Jetson TX2 NX

8.1 L4T Migration

Customers migrating from Jetson TX2 NX to Jetson Orin should note that there is no common JetPack baseline between the platforms. Jetson TX2 NX is limited to JetPack 4.x (L4T 32.x), while Jetson Orin platforms require JetPack 5.x or newer. As a result, an initial bring-up on Jetson Orin requires updating the software stack, including a transition from Ubuntu 18.04 to Ubuntu 20.04 (JetPack 5.x) or Ubuntu 22.04 (JetPack 6.x), along with corresponding upgrades to CUDA, TensorRT, and related compute libraries.

JetPack / L4T	Jetson TX2 NX	Jetson Orin NX/Nano	AI Stack Highlights
JetPack 4 – TX2 NX Only (Ubuntu 18.04, Kernel 4.9)			
JetPack 4.6.2 (L4T 32.7.2)	Supported	n/a	CUDA 10.2 TensorRT 8.2 cuDNN 8.3 DeepStream 6.0
JetPack 4.6.6 (L4T 32.7.6)	Supported	n/a	CUDA 10.2 TensorRT 8.2 cuDNN 8.3 DeepStream 6.1
JetPack 5 – Jetson Orin Only (Ubuntu 20.04, Kernel 5.10)			
JetPack 5.1.2 (L4T 35.4.1)	n/a	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.3
JetPack 5.1.5 (L4T 35.6.2)	n/a	Planned	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 VPI 2.4 DeepStream 6.3
JetPack 6 – Jetson Orin Only (Ubuntu 22.04, Kernel 5.15)			
JetPack 6.1 (L4T 36.4.0)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 6.2.1 (L4T 36.4.4)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1

8.2 Jetson TX2 NX to Orin NX/Nano Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
NGX002 / NGX003	Photon	**Module Swap**	Photon	NGX002 / NGX003	NVMe Required
NGX007	Boson for FRAMOS	**Upgrade Path**	Boson for Orin NX	NGX020	Same form-factor, optimized for Jetson Orin NX feature set
NGX004 / NGX014	Quark	**Upgrade Path**	Hadron-DM	NGX024	Same form-factor, optimized for Jetson Orin NX feature set, Dual 4-Lane MIPI CSI-2 22-Pin Connectors, wide input power range (+9-60VDC)

9. Jetson Nano

9.1 L4T Migration

Customers migrating from Jetson Nano to Jetson Orin should note that there is no common JetPack baseline between the platforms. Jetson Nano is limited to JetPack 4.x (L4T 32.x), while Jetson Orin platforms require JetPack 5.x or newer. As a result, an initial bring-up on Jetson Orin requires updating the software stack, including a transition from Ubuntu 18.04 to Ubuntu 20.04 (JetPack 5.x) or Ubuntu 22.04 (JetPack 6.x), along with corresponding upgrades to CUDA, TensorRT, and related compute libraries.

JetPack / L4T	Jetson Nano	Jetson Orin NX/Nano	AI Stack Highlights
JetPack 4 – Jetson Nano Only (Ubuntu 18.04, Kernel 4.9)			
JetPack 4.6.2 (L4T 32.7.2)	Supported	n/a	CUDA 10.2 TensorRT 8.2 cuDNN 8.3 DeepStream 6.0
JetPack 4.6.6 (L4T 32.7.6)	Supported	n/a	CUDA 10.2 TensorRT 8.2 cuDNN 8.3 DeepStream 6.1
JetPack 5 – Jetson Orin Only (Ubuntu 20.04, Kernel 5.10)			
JetPack 5.1.2 (L4T 35.4.1)	n/a	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.3
JetPack 5.1.5 (L4T 35.6.2)	n/a	Planned	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 VPI 2.4 DeepStream 6.3
JetPack 6 – Jetson Orin Only (Ubuntu 22.04, Kernel 5.15)			
JetPack 6.1 (L4T 36.4.0)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 6.2.1 (L4T 36.4.4)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1

9.2 Jetson Nano to Jetson Orin NX/Nano Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
NGX002 / NGX003	Photon	**Module Swap**	Photon	NGX002 / NGX003	NVMe Required
NGX007	Boson for FRAMOS	**Upgrade Path**	Boson for Orin NX	NGX020	Same form-factor, optimized for Orin NX feature set
NGX004 / NGX014	Quark	**Upgrade Path**	Hadron-DM	NGX024	Same form-factor, optimized for Orin NX feature set, Dual 4-Lane MIPI CSI-2 22-Pin Connectors, wide input power range (+9-60VDC)

10. Jetson TX2i

10.1 L4T Migration

Customers migrating from Jetson TX2i to Jetson Orin should note that there is no common JetPack baseline between the platforms. Jetson TX2i is based on JetPack 4.x (L4T 32.x), while Jetson Orin requires JetPack 5.x or newer. As a result, an initial bring-up on Jetson Orin necessitates upgrading the software stack, including transitioning from Ubuntu 18.04 to Ubuntu 20.04 (JetPack 5.x) or Ubuntu 22.04 (JetPack 6.x), along with corresponding updates to CUDA, TensorRT, and other compute libraries.

JetPack / L4T	Jetson TX2i	Jetson Orin NX/Nano	AI Stack Highlights
JetPack 4 – Jetson TX2i Only (Ubuntu 18.04, Kernel 4.9)			
JetPack 4.6.4 (L4T 32.7.4)	Supported	n/a	CUDA 10.2 TensorRT 8.2 cuDNN 8.3 DeepStream 6.1 VPI 1.2
JetPack 4.6.5 (L4T 32.7.5)	Supported	n/a	CUDA 10.2 TensorRT 8.2 cuDNN 8.3 DeepStream 6.1 VPI 1.2
JetPack 5 – Jetson Orin Only (Ubuntu 20.04, Kernel 5.10)			
JetPack 5.1.2 (L4T 35.4.1)	n/a	Supported	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 DeepStream 6.3
JetPack 5.1.5 (L4T 35.6.2)	n/a	Planned	CUDA 11.4 TensorRT 8.5 cuDNN 8.6 VPI 2.4 DeepStream 6.3
JetPack 6 – Jetson Orin Only (Ubuntu 22.04, Kernel 5.15)			
JetPack 6.1 (L4T 36.4.0)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1
JetPack 6.2.1 (L4T 36.4.4)	n/a	Supported	CUDA 12.6 TensorRT 10.3 cuDNN 9.3 VPI 3.2 DeepStream 7.1

10.2 Jetson TX2i to Jetson Orin NX/Nano Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
ASG016	Quasar	**Upgrade Path**	Hadron-DM	NGX024	Comparable compact footprint, adds dual 4-lane MIPI CSI-2 connectors, 9-60V input range, SATA not available, recommend M.2 M-Key NVMe
ASG008	Sprocket	**Upgrade Path**	Hadron-DM	NGX024	NGX024 adds GbE, 2× USB 3.1, dual MIPI CSI-2, NVMe, and M.2 E-Key for WiFi/BT while remaining ultra-compact at 82.6×58.8mm
ASG002	Elroy	**Upgrade Path**	Hadron-DM	NGX024	Similar compact profile (82.6×58.8mm), with a richer I/O set including dual MIPI CSI-2, NVMe storage, M.2 E-Key, and wide 9–60V power
ASG001 / ASG012	Astro	**Direct Upgrade Unavailable**	—	—	NGX024 is recommended for standard MIPI use cases, or the Hadron GMSL (NGX018) if GMSL camera continuity is required
ASG003 / ASG023	Orbitty	**Upgrade Path**	Hadron-DM	NGX024	Similar 82.6×58.8mm footprint, rugged locking connectors, and a broader I/O set including dual MIPI CSI-2, NVMe, M.2 E-Key for WiFi/BT, and wide 9–60V input. Micro SD not support by Jetson Orin NX
ESG503 / ESG504 / ESG505 ESG506	Rudi Embedded System	**Upgrade Path**	Rudi-NX	ESG611 / ESG612	Optimized for Jetson Orin NX feature set and thermal requirements

Jetson TX2i to Jetson Orin NX/Nano migrations should consider environmental limits; use Jetson AGX Orin Industrial for harsh or extended industrial deployments.

10.3 Jetson TX2i to AGX Orin (Industrial) Upgrade Path

Source Carrier	Part #	Migration	Target Carrier	Part #	Notes
ASG007	Cogswell	**Upgrade Path**	Forge	AGX201	PoE not supported, 2x GbE, 2x 10GBASE-T, 155mm x 125mm, 10-36V DC, full vision ecosystem support. Jetson AGX Orin Industrial available.
ASG006 / ASG009	Spacely	**Upgrade Path**	Rogue-RX	AGX203	Rugged positive locking connectors, 92mm x 108.2mm, 2x 10GBASE-T ix connectors, full vision ecosystem support. Jetson AGX Orin Industrial available.
VPG003	Graphite VPX/CPU-TX2/TX2i	**Upgrade Path**	Graphite VPX	VPG004	3U VPX SOSA aligned, Designed with NVIDIA Jetson AGX Orin Industrial

11. Contact Information

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Support	Support Request Form