Nokia 7360 ISAM FX-4 Intelligent Services Access Manager - Official Technical Overview & Hardware Datasheet

NOKIA 7360 ISAM FX-4 INTELLIGENT SERVICES ACCESS MANAGER

EXECUTIVE SUMMARY

The Nokia 7360 Intelligent Services Access Manager (ISAM) FX-4 is a high-capacity, carrier-grade access node engineered for modern fiber-to-the-x (FTTx) and Passive Optical Network (PON) deployments. Designed to address the demands of mass-market fiber aggregation and enterprise passive optical LANs (POL), the FX-4 variant offers a compact yet highly scalable solution that converges residential, business, and mobile backhaul services onto a single, future-ready platform. This document provides a comprehensive overview and technical datasheet for the Nokia 7360 ISAM FX-4, detailing its hardware architecture, forwarding engine specifications, and operational advantages.



HARDWARE ARCHITECTURE & SILICON

The Nokia 7360 ISAM FX-4 is a 5 Rack Unit (RU) high shelf that serves as the foundation for a high-performance Optical Line Terminal (OLT) system. The system is built around a non-blocking backplane architecture that provides dual 100Gb/s connections to each Line Termination (LT) slot, ensuring wire-speed performance regardless of service mix .

The core intelligence of the system resides in the Network Termination (NT) cards. The FX-4 supports the FANT-F NT card, which is powered by a 480Gb/s switching matrix operating in an Active/Active redundancy mode. This architecture enables uninterrupted service and load sharing, critical for carrier-grade availability. The platform also supports an optional Network Termination Input Output (NTIO) module, the FNIO-A, which provides an

additional 80Gb/s of network capacity through eight configurable 10Gb/s or 1Gb/s network links .

KEY FEATURES & ROUTING LOGIC

- High-Capacity Backplane: Delivers 2 x 100Gb/s per slot, guaranteeing non-blocking performance for high-bandwidth services .

- Multi-Service Convergence: Simultaneously supports GPON, EPON with DPoE, 10G EPON, point-to-point fiber, and VDSL2 with vectoring on a single platform. This provides unmatched flexibility for mixed-technology network migrations .

- Carrier-Grade Redundancy: Features full NT redundancy with Active/Active load-sharing capabilities. Supports advanced resiliency protocols including MPLS, Ethernet Ring Protection Switching (ERPS) (G.8032), and Link Aggregation Groups (LAG) .

- Advanced Traffic Management: Full IPv4 and IPv6 support, robust IGMP for multicast video delivery, and sophisticated Quality of Service (QoS) mechanisms ensure premium service delivery for IPTV, high-speed data, and business services .

- Future-Proof Evolution: The platform is designed for a smooth evolution to next-generation PON technologies, such as TWDM-PON, protecting initial investments and enabling a seamless capacity upgrade path .

- Integrated Management: Fully manageable by the Nokia 5520 Access Management System (AMS) and the 5529 Access Provisioning Center (APC),

simplifying operations and provisioning .

COMPLIANCE & STANDARDS

The Nokia 7360 ISAM FX-4 is designed and verified to meet the rigorous standards of the global telecommunications industry, ensuring reliability and interoperability.

Environmental Compliance:

- Storage: ETS EN 300 019-1-1 Class 1.1 (weather-protected, partly temperature-controlled locations).
- Transport: ETS EN 300 019-1-2 Class 2.3 (public transportation).
- Stationary Use: ETS EN 300 019-1-3 Class 3.1E and Class 3.3 (assuming no condensation and icing) .
- GR-63-CORE and SBC TP76200MP .

Safety & EMC:

- Safety: IEC 60950, EN 60950 Class 1, AS/NZS 60950.1, UL/CSA 60950-1-03 .
- EMC: ETS EN 300 386 (Telecommunications center), ETS ES 201 468, GR-1089-CORE, FCC part 15 Class A, EN 55022 .
- Protection: ITU-T K.20 enhanced and K.45 basic .

TECHNICAL SPECIFICATIONS

Form Factor & Dimensions

- Height: 223 mm (8.77 in) / 5 Rack Units (RU) .

- Width: 445 mm (17.52 in); compatible with standard 19-inch racks .

- Depth: 280 mm (11.02 in) .

System Capacity

- LT Slots: 4 wire-speed slots .

- Switching Capacity: 2 x 480Gb/s (bidirectional) .

- Backplane Capacity: 2 x 100Gb/s per slot .

- Uplink Capacity: 160Gb/s .

Power & Environmental

- Nominal Input Voltage: -48V DC nominal / 60V DC .

- Power Redundancy: Fully redundant power feeding (Branch A and B) .

- Operating Temperature: -40°C to 65°C (-40°F to 149°F) .

- Operating Humidity: 5% to 93% (non-condensing) .

Supported Interfaces & Cards

- Network Termination (NT): FANT-F (480 Gb/s switching matrix, 4 x 10GbE/1GbE links) .

- NTIO: FNIO-A (8 x 10GbE/1GbE links, SFP+ cages) .

- Line Cards (LT):

  - GPON: 8-port and 16-port options.

  - EPON: with DPoE support.

  - 10G EPON: with DPoE support.

  - Point-to-Point Fiber.

  - VDSL2: with vectoring.

  - Voice Services Line Card .

Parameter	**Specification**
Form Factor	5RU (223 mm x 445 mm x 280 mm), 19-inch Rack Mountable
Switching Capacity (NT)	480 Gb/s (FANT-F) per controller
Backplane Capacity	2 x 100 Gb/s per line card slot
Total System Capacity	10 Tb/s (fully configured)
Power Supply	Dual Redundant -48/-60V DC, Terminal Block Connection
Operating Temperature	-40°C to 65°C (-40°F to 149°F)
NT Uplink Ports	4 x 10GbE/1GbE (SFP+) per FANT-F
NTIO Uplink Ports	8 x 10GbE/1GbE (SFP+) per FNIO-A
Supported PON Technologies	GPON, EPON (DPoE), 10G EPON, TWDM-PON (Future)

Redundancy	Active/Active NT Redundancy, Redundant Power Feeds

ORDERING SKU INFORMATION

Nokia 7360 ISAM FX-4 Base Chassis

- 7360 FX-4 Shelf: Includes backplane, fan module, and chassis (excluding NT and LT cards).

Network Termination Cards

- FANT-F: 480Gb/s NT card with 4 x SFP+ cages for 10GbE/1GbE links.

- FNIO-A: NTIO card with 8 x SFP+ cages for 10GbE/1GbE links.

Line Termination Cards

- FGLT-A: 8-port GPON LT card.

- FGLT-B: 16-port GPON LT card.

- NGLT-A: EPON LT card with DPoE support.

- NGLT-C: 10G EPON LT card with DPoE support (C+/C++/B+ optics).

- FWLT-B: VDSL2 with vectoring LT card.

