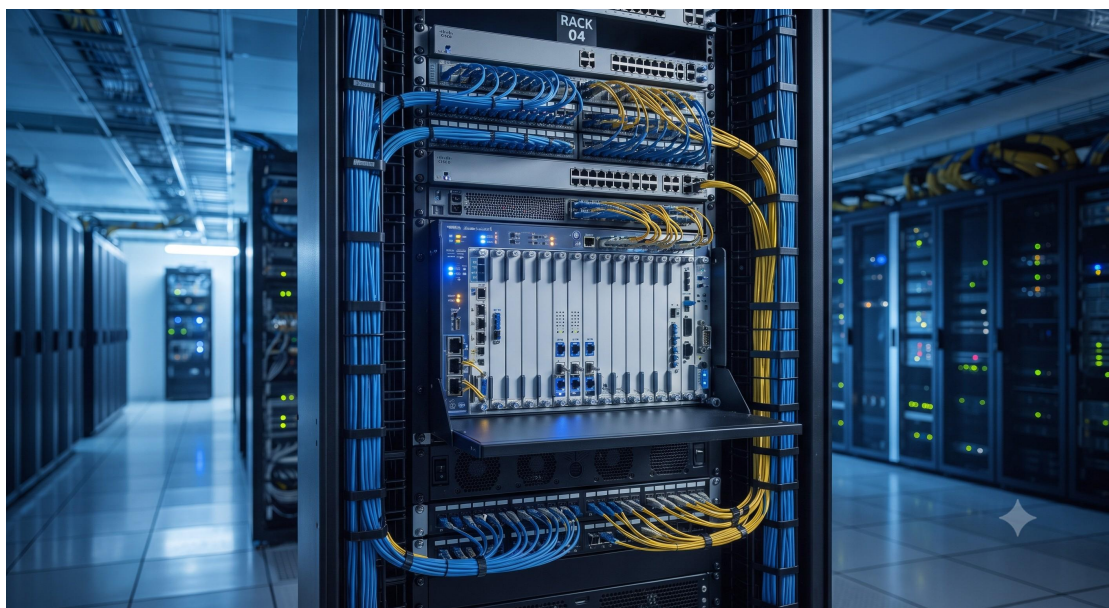


Nokia AlcaLu ISAM Command Reference - Official Technical Overview & Hardware Datasheet

PRODUCT IDENTIFICATION

The Nokia AlcaLu ISAM (Intelligent Services Access Manager) Command Reference is the definitive engineering guide for operating and managing the world's most widely deployed access platform family. This technical document provides comprehensive details on the command-line interface (CLI) structure, syntax, and operational parameters for the ISAM portfolio, including the 7302 ISAM, 7368 ISAM, and related multi-service access nodes. Designed for network engineers and field technicians, this reference ensures precise configuration, monitoring, and troubleshooting of carrier-grade access networks.



SYSTEM HARDWARE TOPOLOGY

The ISAM family is architected to support a wide range of FTTx deployment scenarios, from central offices to outdoor cabinets. The platform is built on a high-capacity backplane architecture.

Chassis Overview: The 7302 ISAM, a high-capacity access node, offers 16 to 18 slots for various line cards, supporting GPON, P2P fiber, VDSL2 (including bonding and vectoring), ADSLx, voice, and SHDSL technologies. This modularity allows service providers to mix and match interfaces based on subscriber density and service requirements .

Backplane & Fabric: The system features a dual 10-Gb/s backplane, providing substantial bandwidth per slot. In redundant configurations, the switching matrix delivers up to 2 x 320 Gb/s of non-blocking capacity, ensuring wire-speed performance for high-bandwidth applications .

Control Plane: The architecture separates the data forwarding plane from the control plane, with redundant control modules supporting active-active configurations for high reliability. This ensures seamless failover and service continuity, critical for business and mobile backhaul applications .

DATA & CONTROL PLANE CAPABILITIES

The ISAM Command Reference details the protocols and forwarding mechanisms that make the platform an IP/Ethernet/MPLS access powerhouse.

Protocol Interoperability: The platform supports advanced forwarding and MPLS, enabling the convergence of residential, mobile, and business services onto a single IP/Ethernet access infrastructure. This convergence is key to reducing operational expenses and simplifying network architecture .

High-Bandwidth Delivery: The hardware is optimized to deliver 100 Mb/s and beyond per subscriber in mass FTTx deployments. This is achieved through support for advanced copper technologies like VDSL2 bonding and vectoring, as well as fiber technologies like GPON and Gigabit Ethernet .

Command Line Interface (CLI): The command reference documentation is structured to provide hierarchical access to system functions. While specific command syntax is detailed within the full reference guide, it typically includes global commands for system management, specific modes for hardware configuration, and diagnostic tools for troubleshooting. The CLI is accessible via secure shell (SSH) or console connection, offering a robust interface for network administrators .

COMPONENT BREAKDOWN

A detailed breakdown of the hardware modules supported by the ISAM platform is essential for procurement and integration.

Line Cards: A variety of line cards are available to support different access technologies and port densities. For instance, cards like the 3FE61233BA terminal card serve as critical hardware modules for processing and transmitting end-user data in access devices, handling functions such as protocol conversion, data forwarding and aggregation, and signaling control .

Power Supply: The chassis supports 1+1 redundant AC/DC power supplies, ensuring high availability even in the event of a power module failure.

Fans & Cooling: Field-hardened designs include robust thermal management systems suitable for both indoor and outdoor deployment, ensuring operational reliability across a wide range of environmental conditions .

OPERATIONAL SPECS MATRIX

Parameter	Specification
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Form Factor	16-18 Slot Chassis (7302 ISAM)
Switching Capacity	Up to 2 x 320 Gb/s (Redundant Configurations)
Backplane Throughput	2 x 10 Gb/s per Slot
Supported Access Technologies	GPON, P2P Fiber, VDSL2 (Bonding/Vectored), ADSLx, SHDSL, Voice
Deployment Scenarios	CO, FTTN, FTTC, FTTB, FTTH, Outdoor Hardened
Power Supply	1+1 Redundant AC/DC
Protocol Support	IP, Ethernet, MPLS
Reliability	Active-Active Control Modules

REGULATORY COMPLIANCE

The Nokia AlcaLu ISAM platform is engineered to meet the rigorous demands of global telecommunications standards. It holds certifications for network equipment, ensuring interoperability and safety across various regulatory domains. The platform is compliant with industry standards for Ethernet, Gigabit Ethernet, and Fast Ethernet protocols . Additionally, the hardware is designed with carrier-grade reliability, supporting active-active configurations

and field-hardened components that are suitable for demanding environmental conditions, including extreme temperatures for outdoor cabinets .

