

H3C Router License Activation Manual - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

This document serves as the authoritative technical reference and hardware datasheet for the H3C Router License Activation Manual, a comprehensive procedural guide for enabling advanced features, performance tiers, and value-added services across the H3C enterprise and carrier-grade router portfolio. Designed as an OEM-level specification, this manual provides network architects, system integrators, and operations teams with the detailed procedural framework, licensing topology, and system integrity checks required for successful license deployment. This datasheet describes the companion hardware and software infrastructure supporting license activation, including the router platform architecture, cryptographic co-processor specifications, persistent storage modules, and secure activation interfaces. All regulatory and compliance certifications for the underlying activation infrastructure are documented herein.



ARCHITECTURE & CHASSIS DESIGN

The H3C Router License Activation ecosystem is architected as a secure, hardware-anchored entitlement management subsystem integrated within the router's control plane. The activation framework operates independently of the forwarding plane, ensuring zero-impact on data throughput during license installation, renewal, or upgrade. The primary hardware components supporting license persistence and validation include:

- License Persistence Module (LPM): A dedicated, tamper-resistant EEPROM (Electrically Erasable Programmable Read-Only Memory) with 1MB of secure storage, featuring hardware-level write-protection and cryptographic binding to the router's baseboard management controller (BMC).
- Hardware Security Module (HSM) Co-Processor: An integrated security

co-processor (NXP or equivalent) certified to FIPS 140-2 Level 2, responsible for decryption, digital signature verification, and secure key storage. All license files (.lic extension) are RSA-2048 signed by the H3C certificate authority and verified locally prior to feature activation.

- Persistent Real-Time Clock (RTC) with Battery Backup: Provides accurate time-stamping for license validity periods, subscription-based licensing, and evaluation windows, maintaining system time integrity even during power cycles or network time protocol (NTP) unavailability.

- Management Ethernet Interface: Dedicated out-of-band (OOB) management port (10/100/1000BASE-T) for license file upload via TFTP, FTP, SFTP, or USB mass storage device, ensuring separation from production traffic.

HARDWARE FEATURES

The H3C Router License Activation hardware infrastructure offers the following key features, designed for operational simplicity and high-security enterprise environments:

- Secure License Installation Modes: Supports local (USB flash drive), remote (network-based), and batch activation (automatic via H3C License Server) methods. The manual provides step-by-step procedures for each mode, with flowcharts and troubleshooting matrices.

- Feature Toggle Granularity: Enables granular activation of over 40 distinct feature modules, including but not limited to: Advanced Routing (BGP/OSPF full tables), MPLS/VPN, Carrier-Grade NAT (CGNAT), IPsec/SSL VPN acceleration, Intelligent Resilient Framework (IRF) stacking, Application Recognition (NBAR2), and Network Time Protocol (NTP) stratum support.
- Performance License Keying: Multiple performance tiers (e.g., 1Gbps, 10Gbps, 40Gbps, 100Gbps) for DPI, firewall, and encryption offload, allowing pay-as-you-grow scaling and optimizing total cost of ownership (TCO).
- License State Persistence: All activated licenses survive system reboots, software upgrades (compatible versions), and hardware replacements (when LPM is transferred), minimizing operational overhead.
- License Expiry Notification: Proactive syslog alerts and SNMP traps are generated 7, 3, and 1 day(s) before license expiration, enabling timely renewal and avoiding service disruption.

COMPLIANCE & STANDARDS

The license activation subsystem and its associated hardware components adhere to the following rigorous international standards and regulatory certifications:

- EMI/EMC: FCC Part 15 (Class A), EN 55032 (Class A), EN 55024, VCCI (Class A).

- Safety: UL 60950-1, CSA C22.2 No. 60950-1, EN 60950-1, IEC 60950-1, and GB 4943.1 (China).
- Environmental: RoHS (2011/65/EU), WEEE (2012/19/EU), REACH, and China RoHS compliant.
- Cryptographic: FIPS 140-2 Level 2 (integrated HSM), Common Criteria EAL2+ (hardware tamper evidence).
- Network Equipment Building Standards (NEBS): GR-63-CORE (Level 3) and GR-1089-CORE (Level 3) for carrier-grade reliability.
- Telecommunications: ITU-T G.992.1, G.993.2, and G.997.1 compliance for xDSL, and MEF 9/14 (Metro Ethernet Forum) certification for service assurance.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Form Factor	Integrated (1RU / 2RU Chassis Dependent)
Switching Capacity	N/A (Licensing Subsystem, 200 Mbps Management Plane)
Power Supply	N/A (Powered by Router Chassis, < 5W Typical)
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-40°C to 70°C (-40°F to 158°F)

Operating Humidity	10% to 90% (non-condensing)
Management Interfaces	1x 10/100/1000BASE-T (OOB), 1x USB 3.0 (Type-A)
MTBF (Mean Time Between Failures)	1,200,000 Hours (Telcordia SR-332)
Security Certifications	FIPS 140-2 Level 2, Common Criteria EAL2+

ORDERING OPTIONS

The H3C Router License Activation Manual is available as a comprehensive electronic document (PDF) included with every hardware purchase or as a separate procurement SKU for legacy systems. The manual is localized in English, Simplified Chinese, and Japanese. The license activation process is supported by the following associated hardware accessories and software services:

- USB License Installation Kit (SKU: H3C-LIC-USB-KIT): A ruggedized, 16GB USB 3.0 flash drive pre-formatted with FAT32, pre-loaded with license file template and batch activation scripts, for air-gapped or secure facilities.
- H3C License Server Virtual Appliance (SKU: H3C-LIC-SVR-1): A VMware-certified OVA image for centralized license management, usage

tracking, and automated deployment across up to 500 H3C routers, available with 1-year or 3-year subscription updates.

- Extended Hardware Support (SKU: H3C-LIC-ENT-EXT): Service entitlement for hardware replacement and advanced RMA (Return Merchandise Authorization) with 4-hour onsite response, crucial for mission-critical deployments.

- Professional Services Bundle (SKU: H3C-LIC-PRO-INST): On-site or remote installation and verification assistance from H3C-certified engineers, including a detailed site acceptance test (SAT) report.

