TRS SCORING · PRE-INVESTMENT RISK AUDIT

M&A Technical Due Diligence

SRv6 uSID Readiness as a Material Investment Risk Factor in TMT Acquisitions

2 Wks	5	3–5 Yr
Sprint Duration	TRS Scoring Domains	Hardware Lifecycle Cliff

This white paper examines the technical due diligence methodology for evaluating TMT acquisition targets during the industry's generational migration to SRv6 uSID, Open NOS, and white-box disaggregated hardware — presenting the SRv6 Transition Readiness Score (TRS) as a proprietary instrument for pre-investment architectural risk quantification.

1. The SRv6 Migration as M&A; Risk Factor

Segment Routing over IPv6 (SRv6, RFC 8986) replaces RSVP-TE, LDP, BGP/MPLS L2/L3 VPN, VXLAN, and GTP-U with a single unified IPv6 forwarding plane. Every Tier-1 SP and hyperscaler has active SRv6 production deployments. For PE and VC firms, a target's position relative to this transition is a material risk factor directly influencing exit valuation and revenue retention.

"SRv6 readiness is a financial material risk factor as significant as revenue growth rate."

4.2B	25–40%	20–35%	2
uSID Prefixes/Domain	NOC Labor Reduction	Renewal Risk (Non-Compliant)	Weeks to Risk Report

2. SRv6 uSID Technical Foundation

F321632 Encoding

32-bit locator block + 16-bit uSID function + 32-bit GIB for compute /64 locators — supporting 4.2 billion /64 container prefix assignments per domain. Up to 6 forwarding instructions encode within a single 128-bit IPv6 address.

RFC 8986 — Network Programming	Defines H.Encap, H.Insert, End, End.X, End.DX2/4/6, End.DT4/6/46/2U/2M behaviors mapped to ASIC actions.
RFC 9252 — BGP SRv6 L2/L3 VPN	L3VPN (End.DT4/6/46), L2 EVPN E-LINE (uDX2/uDX2V), EVPN E-LAN (uDT2U/uDT2M) — full service portfolio, no MPLS stack.
RFC 8355 — TI-LFA	Pre-computed backup segment lists, sub-50ms local repair on any link or node failure.

> **Why this matters:** A Tier-1 SP backbone running RSVP-TE, LDP, BGP/MPLS VPN, and VXLAN maintains four parallel protocol planes — each with dedicated expertise, tooling, and change management. SRv6 uSID collapses all four into one IPv6 data plane.

3. Open NOS and White-Box Disaggregation Risk

OCP white-box platforms running SONiC or FRRouting deliver carrier-grade BGP/IS-IS/SRv6/EVPN at $800–$1,200 per 100GE port versus $5,000–$12,000 on incumbent platforms. For M&A; targets in networking software, white-box commoditization is existential risk to hardware-bundled business models.

4. Two-Week Sprint Methodology

Week 1 — Architecture Audit	Topology discovery, hardware BOM, software versioning, open-source dependency graph, CVSS-scored vulnerability assessment, SRv6 uSID capability inventory.
Week 1 — Protocol & Readiness	IS-IS SR-capability audit, SRv6 locator block status, BGP SID advertisement coverage, PCE/PCEP extensions, Flex-Algo, RSVP-TE LSP dependency scoring.

Week 2 — Risk Quantification	Technical debt mapped to financial exposure, SPOF blast-radius modeling, vendor lock-in scoring, SRv6 transition cost modeling.
Week 2 — IC Preparation	Executive Red-Flag Risk Report with CVSS-equivalent severity, Product Roadmap Market Alignment Matrix, live 90-minute IC Defense session.

5. SRv6 Transition Readiness Score (TRS)

Domain (Weight)	Scoring Criteria
Protocol Stack Modernization (30%)	IS-IS/OSPFv3 SR-capability, SRv6 uSID production status, RSVP-TE sunset progress, L2/L3 VPN migration.
Open NOS Adoption (25%)	SONiC/FRR deployment ratio, P4 programmability, SAI coverage, open-source contribution velocity.
Hardware Silicon Readiness (20%)	ASIC SRv6 uSID TCAM depth, Jericho2/Tomahawk4 deployment ratio, coherent pluggable readiness.
Automation & Observability (15%)	IaC pipeline maturity, gNMI streaming vs. SNMP polling, CI/CD validation, RPKI/ROV deployment.
Standards Alignment (10%)	IETF SPRING/PCE/LSR/BESS/IDR/TEAS participation, 3GPP/OCP/BBF compliance.

IMPACT: **A target scoring above 70 commands a premium valuation multiplier; below 40 faces compounding dual-plane OpEx, contract renewal risk, and hardware lifecycle cliffs.**

6. Financial Exposure Quantification

→ Dual-Plane OpEx: Maintaining RSVP-TE alongside SRv6 adds 15–25% annual NOC labor overhead — $2–5M per 1,000-router network.

→ Contract Renewal Risk: Tier-1 SP procurement now mandates SRv6 uSID compliance, creating 20–35% revenue renewal risk for non-compliant vendors.

→ Hardware Lifecycle Cliff: ASICs without native SRv6 uSID support require forklift replacement within 3–5 years.

White Paper Summary — SRv6 uSID Technology Conclusion

SRv6 uSID (RFC 8986/9252) is the definitive successor to legacy MPLS/RSVP-TE networks. The F321632 encoding makes it the only forwarding architecture natively compatible with both carrier TE and Kubernetes-scale fabric requirements from a single data plane — making SRv6 readiness a financial material risk factor in any TMT acquisition.

The TRS framework quantifies what traditional financial due diligence cannot price: protocol obsolescence risk, Open NOS commoditization exposure, and hardware lifecycle cliffs. A 2-week sprint delivering the Red-Flag Risk Report and live IC Defense session makes these risks visible and actionable before capital deployment.

Ready to De-Risk Your Next Acquisition?

SRv6 TEK Innovations provides 2-week technical due diligence sprints, TRS scoring, and Investment Committee defense for your TMT target evaluation.

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