



Ixia 的 IxANVL 可验证 2-7 层网络设备是否符合行业标准协议。它是认证协议一致性和协议堆栈实施可靠性的重要工具。通过与在设备 (DUT) 的协议交互完成测试，来验证它在有效和无效的情况下均正常工作。

IxANVL 受到客户 16 年多来的信赖，提供业内广为接纳的一致性测试套件。与提供一致性测试的其他公司不同，Ixia 在主要市场中提供直接技术支持。IxANVL 可在 Windows 和 Linux 工作站以及 Ixia 可扩展硬件平台上运行。

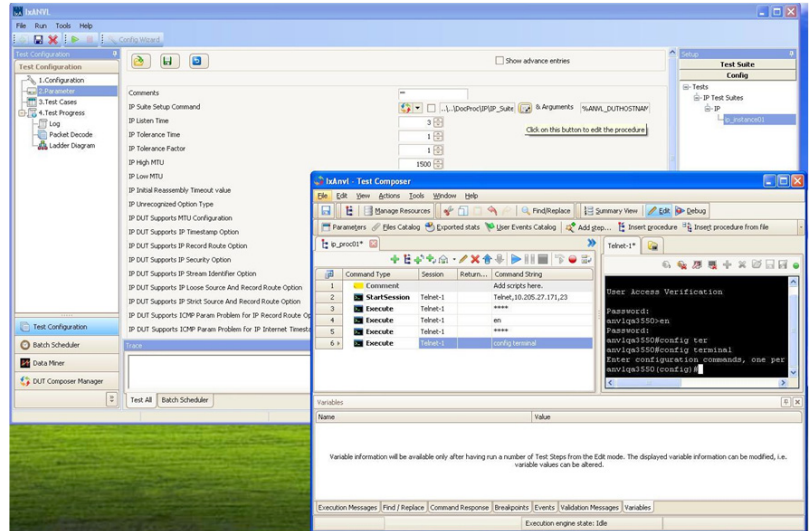
IxANVL 是业内唯一提供准确、详细的预期测试步骤和协议行为的测试套件。该套件可实现测试执行期间的快速分析以及与实际 DUT 行为的关联，同时能更快地发现测试失败原因。

### 全面的协议覆盖范围

- 包括 100 多个测试套件的 10,000 多例协议一致性测试案例
- 测试覆盖范围包括 IPv4、IPv6、桥接、路由、MPLS、组播、VPN 技术、高可用性、电信级以太网、光纤、UDP、TCP 和 HTTP、SIP 等应用层协议。
- 支持 160 多种 IETF/ITU-T 规范

### 测试配置下的集成设备

- 将配置更改融入测试运行中
- 记录手动 DUT 配置
- 回放记录以进行调试
- 支持前台和后台执行模式

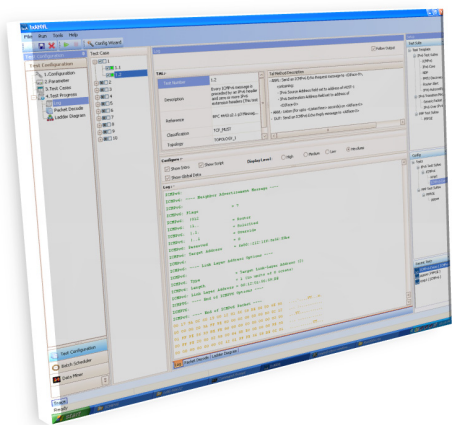


### 易于使用

- 直观用户界面
- 通过类似 Ethereal 的数据包和阶梯图记录多层结果，以便于进行故障排除
- 自动化测试
- 安排批量运行
- 存储多个配置
- 创建报告用于后续分析

### 灵活的许可

- 源许可提供完整的编辑控制
- 二进制许可能以更低成本提供固定框架
- 浮动许可允许在多个工作站/用户之间进行测试套件共享



## 支持协议

	IxANVL Test Suites	Target Protocols	Reference Specification	Test Case Count	Required Test Interfaces
<b>IPv6 Test Suites</b>	IPv6 Core	IPv6	RFC 2460, 2464	111	2
		IPv6CP	RFC 2472	17	1
		ICMPv6	RFC 4443	46	2
	IPv6 Advanced	NDP	RFC 4861	228	2
		Generic Packet Tunneling	RFC 2473	46	2
		AutoConfig	RFC 4862	37	2
		V6oV4	RFC 4213, 2529, 3056, 3068	66	2
		PMTU	RFC 1981	10	1
	Mobile IPv6	IP Router Alert	RFC 2711	13	2
		Home Agent	RFC 3775	159	2
		Correspondence Node	RFC 3775	153	1
	GRE	Mobile Node	RFC3775	95	2
GRE		RFC 2890, 2784	29	2	
DHCPv6	DHCP Client	RFC 3315	103	1	
	DHCP Server	RFC 3315	141	2	
<b>IPv4 Test Suites</b>	IPv4	IPv4	RFC 791, parts of 1122, 1812	70	2
		ICMP	RFC 792 , parts of 1812	32	2
	DHCPv4	DHCP Client	RFC 2131	90	2
		DHCP Server	RFC 2131	74	2
<b>Routing</b>	IP RIP	RIP	RFC 2453	53	2
		IPGW	RFC 1812, 1122	18	2
	RIPng	RIPng	RFC 2080	60	2
	OSPF Core	OSPF	RFC 1583, 2328	312	3
	OSPF Extensions	Opaque LSA, NSSA, DB Overflow, Stub Router Ext	RFC 2370, 3101, 1765, 3137	56	3
		OSPF TE	RFC 3630	54	2
	OSPFv3	OSPFv3	RFC 5340, parts of RFC 2328	328	3
	OSPF-GR	OSPFv2-GR	RFC 3623	56	2
	VRRP	VRRP	RFC 3768	83	2
	BGP4 Core	BGP	RFC 4271	183	3
	BGP4 Extensions	BGP-OSPF, Communities, Route Flap Damping, Route Reflection, Route Refresh, Confederations	RFC 1403, 1997, 2439, 2918, 4456, 5065, 1771, 4360	147	3
	BGP Plus	BGP+ with IPv6	RFC 4271, 4760, 2545	200	3
	BGP 4-Byte AS	4-byte AS for BGP and BGPPlus	RFC 4893	50	3
	ISIS	ISIS	RFC 1195, ISO/IEC; 10589: 1992(E)	229	2
ISIS	ISIS-TE	RFC 3784	31	1	
ISISv6	ISIS-v6	ISO/IEC 10589: 1992(E), RFC 3719, 1195, 5308	221	2	
<b>TCP Test Suites</b>	TCP Core	TCP	RFC 793, 1122, 2460	179	2
	TCP Advanced	Slow Start, Congestion Control, PMTU Disc, MD5	RFC 2001, 2581, 1191, 2385, 2463, 1981	48	1
	TCP High Performance	Ext for High Performance, Selective Ack	RFC 1323, 2018	48	1
<b>UDP Test Suite</b>	UDP	UDP	RFC 768, 1122	35	1

	<b>IxANVL Test Suites</b>	<b>Target Protocols</b>	<b>Reference Specification</b>	<b>Test Case Count</b>	<b>Required Test Interfaces</b>	
<b>MPLS</b>	MPLS	Label Encapsulation	RFC 3032	59	2	
	RSVP-TE	RSVP-TE	RFC 3209, draft-ietf-mpls-rsvp-lsp-tunnel-07	87	3	
	RSVP-TE	RSVP-TE P2MP	RFC 4875	48	3	
	LDP	LDP	RFC 3036	329	3	
	mLDP	mLDP P2MP	draft-ietf-mpls-ldp-p2mp-10	97	4	
	LSP-Ping-Tr	LSP Ping and Traceroute	RFC 4379	128	2	
	VCCV	Pseudo wire VCCV	RFC 5085	70	2	
	L2VPN (PWE3)	PWE3-Control	PWE3-Control	RFC 4447	69	2
			PWE3-Encapsulation	RFC 4448, 4618, 4717, 4385, 4623	78	2
	VPLS	VPLS	RFC 4762	58	4	
	VPLS-BGP	VPLS with BGP AD and signalling	RFC 4761	46	4	
L3 VPN	L3 VPN	RFC 4364	101	3		
<b>MPLS-TP</b>	MPLS-TP-Y1731-CC-LD	MPLS-TP-Y1731-CC-LD	RFC 5586 (GACH), draft-bhh-mpls-tp-oam-y1731-06.txt, ITU-TREC Y.1731-200605-l	85	1	
	MPLS-TP-IETF-CC-CV-LD	MPLS-TP-IETF-CC-CV-LD	RFC 5586 (GACH), draft-ietf-mpls-loss-delay-01, draft-ietf-mpls-tp-on-demand-cv-02, draft-ietf-mpls-tp-cc-cv-rdi-03	210	1	
	MPLS-TP-G.8031-APS-Y.1731	MPLS-TP-G.8031-APS-Y.1731	G.8031_Y.1342-2006-06	140	2	
<b>Multicasting Test Suites</b>	IGMP	IGMPv2	RFC 2236	49	2	
		IGMPv3	RFC 3376	153	2	
	DVMRP	DVMRP	draft-ietf-idmr-dvmrp-v3-07	66	3	
	PIM	Dense Mode	draft-ietf-pim-dm-new-v2-04	162	3	
		Sparse Mode, SSM	RFC 4601, draft-ietf-pim-sm-bsr-12	327	3	
	PIMv6	Sparse Mode	draft-ietf-pim-sm-v2-new-12, draft-ietf-pim-sm-bsr-12	283	3	
MLD	MLDv1	RFC 2710	98	2		
	MLDv2	RFC 3810	202	2		
<b>High Availability</b>	BFD	BFD Base, BFD Generic, BFD-v4v6-1 hop for OSPFv2/v3, ISIS and BGP BFD-MPLS	drafts draft-ietf-bfd-base-09.txt, draft-ietf-bfd-generic-05.txt, draft-ietf-bfd-v4v6-1 hop-09.txt, draft-ietf-bfd-mpls-07.txt	178	3	
<b>Layer 4-7 Test Suite</b>	HTTP	HTTP Server	RFC 2616	346	1	
	Telnet	Telnet Client/Server	RFC 854	43	1	
<b>IP Storage Suites</b>	iSCSI	iSCSI Target	RFC 3720	210	1	
		iSCSI Initiator	RFC 3720	205	1	
<b>VPN Test Suites</b>	IPsec AH	MD5, SHA	RFC 4301, 4302	58	2	
	IPsec ESP	MD5, SHA, DES, 3DES, Blowfish, AES	RFC 4301, 4303, 2403, 2404, 2405	72	2	
	IPsec IKE	ISAKMP, IKE	RFC 2407, 2408, 2409	373	2	
	IPsec AH / IPv6	MD5, SHA, IPsec v6	RFC 4301, 4302	66	2	
	IPsec ESP / IPv6	MD5, SHA, DES, 3DES, Blowfish, AES	RFC 4301, 4303, 2404, 2405, 2406, 2403	74	2	
	IPsec IKE / IPv6	ISAKMP, IKE	RFC 2407, 2408, 2409	384	2	
	IKEV2	IKEV2, DES, 3DES, AES-128, 256, 192, MD5, SHA, DH-768, 1024, 1536, 2048, 3072	RFC 4306	189	2	
	L2TP	L2TP	RFC 2661	105	1	
	PPTP	PPTP	draft-ietf-pppext-pptp-02	55	1	



	IxANVL Test Suites	Target Protocols	Reference Specification	Test Case Count	Required Test Interfaces
<b>PPP Test Suites</b>	PPP	LCP, PPP, PPP in HDLC	RFC 1661, 1662	111	2
		Authentication (PAP, CHAP)	RFC 1334, 1994	37	1
	IPCP	IPCP	RFC 1332	19	2
	VJ	VJ Compression	RFC 1144	48	2
	PPPoE	PPP over Ethernet	RFC 2516	75	2
	Multilink PPP	MPPP	RFC1717, 1990	59	3
	Multilink PPP	Multi-class Extension	RFC 2686	9	3
<b>Carrier Ethernet</b>	MEF9	MEF9	MEF1, MEF9, Iometrix Test Plan version 1.4	247	6
	EtherCFM	Ethernet CFM	IEEE P802.1ag/D8.1 2007	246	3
	EtherOAM	Ethernet OAM	IEEE 802.3-ah-2004	166	3
	MEF OAM	MEF21 OAM	MEF 21 Abstract Test Suite for UNI Type 2	187	2
	Service OAM	Y.1731	ITU-T Y.1731 05/2006, IEEE P802.1ag/D8.1 June 8,2007	106	2
	Provider BB	PBB	IEEE 802.1ah D4.2 2005	55	2
	MEF Service OAM	MEF Service OAM	ATS for UNI Type 2 Part 3 - Service OAM	157	2
	MEF ELMI	MEF ELMI	D00063_004 ATS for UNI Type 2 Part 2 ELMI TC MEF 16	239	2
G8031	G.8031 1:1 protection	Ethernet Automatic Protection Switching — ITU-T G8031/Y.1342	283	3	
<b>Bridging</b>	STP	802.1d	IEEE Std. 802.1D-1998	53	3
	RSTP	802.1w	IEEE Std. 802.1D-2004	126	4
	EAPOL	802.1x, MD5, TLS, TTLS	IEEE 802.1x-2004	83	3
	MSTP	802.1s	IEEE 802.1Q-2005	247	4
	LLDP	LLDP	IEEE 802.1AB 2005	104	3
	DCBX	DCBX	DCB Capability Exchange Protocol Specification (Rev 1.0), DCB Capability Exchange Protocol Base Specification (Rev 1.01)	92	1
	Mcast Snooping	IGMP/MLD Snooping	RFC 4541	42	3
	VLAN	802.1q, GMRP, GVRP	IEEE Std. 802.1Q-2005	161	4
	LACP	802.3ad	IEEE Std. 802.3-2002 Clause 43	118	4
	QinQ	QinQ	IEEE 802.1ad 2005	127	2
	MVRP/MMRP	MVRP, MMRP	IEEE Std 802.1ak-2007	321	3
			IEEE Std 802.1Q™-2005/Cor 1-2008		
<b>VoIP</b>	SIP	SIP Server	RFC 3261	297	2
<b>Fiber Channel over Ethernet (FCoE)</b>	FIP	FCoE Initialization Protocol	FCoE Initialization Protocol, FIBRE CHANNEL BACKBONE-5, Rev 1.04, Prepared by the INCITS, T11/Project 1871-D	169	1
	FCoE FCF	FCoE FCF	FIBRE CHANNEL LINK SERVICES, Rev 2.11, Prepared by the INCITS, T11/Project 2103-D	56	1
<b>RMON Test Suites</b>	RMON	Ethernet General	RFC 1757 RFC 1757	116 372	1 1
<b>Toolkits</b>	TCP Toolkit		N/A	4	1
	SNMP Toolkit	Toolkit & sample tests only	N/A	9	1

有关详细信息，请转至 <http://www.ixiacom.com/products/ixanvl/index.php>。

此材料仅供参考，如有更改，恕不另行通知。 本材料说明了 Ixia 目前将要开发并提供给客户的某些产品、特性和功能的计划。 Ixia 仅负责提供与客户之间签订的书面协议中明确提及的产品、特性和功能。

