APEX STANDARDS

Internet Engineering Task Force (IETF) Analysis Platform

Internet Draft (ID) · Request for Comment (RFC) · Best Current Practice (BCP) · Internet Standard Technical Specification (STD)

Whitepaper
IETF Analysis
15 October 2023

Apex Standards IETF Analysis Platform

Introduing a versatile tool for searching and comparing topics across IETF working groups, companies, versions, and beyond. Our Platform facilitates sophisticated analysis for companies, research labs, delegates, governments, and regulators, including:

Monitoring Technological Evolution: Navigate the landscape of emerging tech contributions and their cascading impacts. By doing so, companies can strategically steer their R&D initiatives and patent portfolios, preemptively pinpoint vulnerabilities or design issues, and align with evolving market expectations.

Effortless Topic Retrieval: Serving as a comprehensive repository on IETF standardization, our Platform simplifies the quest for nuanced technical details, historical standardization resolutions, or the freshest updates. Whether prepping for IETF meetings, selecting research subjects, or drafting contributions, patents, or academic papers, our Platform proves indispensable.

Comparative Analysis of Contributions: Dive deep into the standardization influences of various organizations and individual delegates. Such insights pave the way to spot pivotal topics, potential collaboration avenues, assess the prowess of different entities, decipher underlying motivations for certain stances, and unveil prospects for fresh partnerships.

The Synergy of Cross-Referencing and Inter-SDO Liaisons: The cross-referencing of standards is critical, given the liaison communications among major Standard Development Organizations (SDOs) such as IETF, 3GPP, IEEE, GSMA, Open RAN, and ITU-T.

Take 3GPP as an example. They've established global broadband standards, most notably 4G-LTE and 5G-NR, and are now on the trajectory towards 6G. Significant overlaps can be observed, especially in CT1 and CT4, where 3GPP's protocols intersect with IETF's. Many major companies involved in 3GPP have separate teams dedicated to 3GPP and IETF, indicating that while there might be significant work overlap, the same might not be true for team members. Recently, parallels have been drawn between 3GPP's SA5 group working with IETF due to mutual YANG models, as well as SA6's metaverse and SA4's codec deliberations.

An illustration of this is the "Framework for Network Slices Built from IETF Technologies" (https://datatracker.ietf.org/liaison/1861/), submitted on Oct. 9, 2023. This framework zeroes in on the IETF Network Slice realization model in IP/MPLS networks, emphasizing the Transport Network's role in meeting 3GPP 5G slicing connectivity requirements. As a result, it concerns various SDO Working Groups, such as Open RAN's WG1,6,9, 3GPP's SA2,3,5 and RAN3, ITU-T's SG15, and GSMA. Such interwoven relations underscore the importance of cross-referencing.

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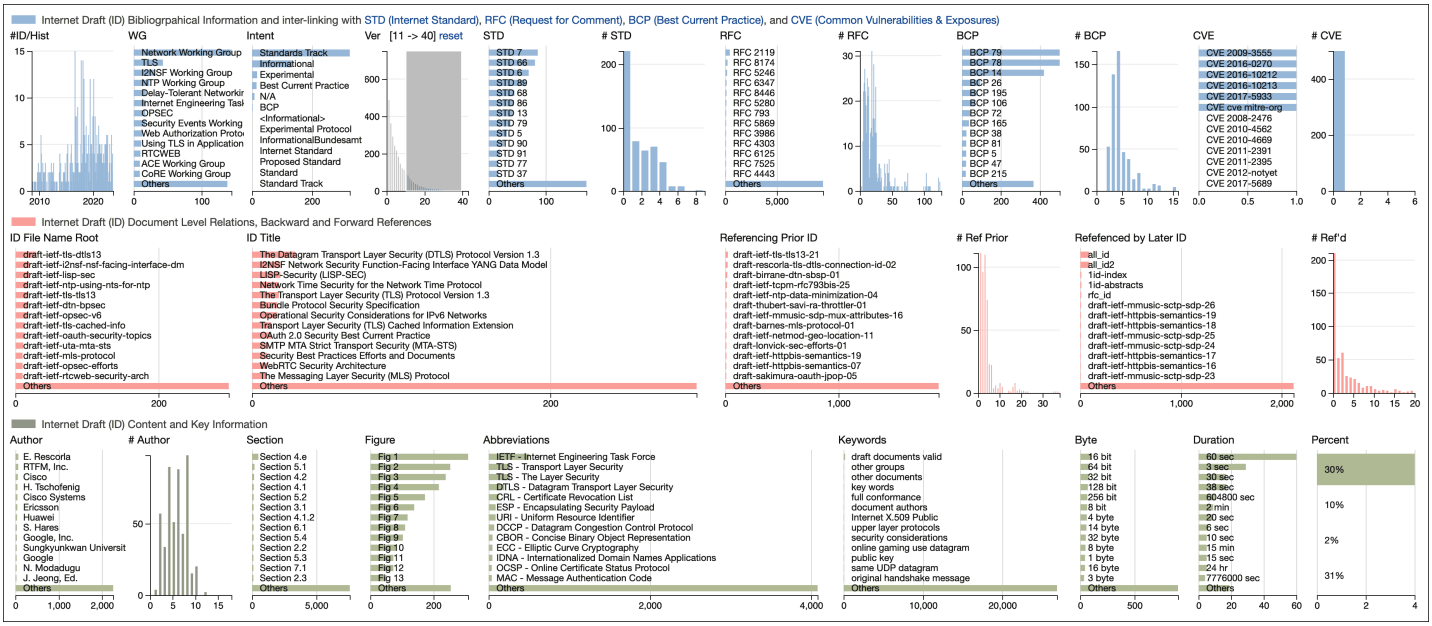

Figure illustrates a multi-dimensional dashboard, detailing the distribution of Internet Drafts (ID) based on search criteria, keywords, and filters. For instance, using the **Apex Standards IETF Analysis Platform**, one can extract IDs mentioning specific STDs, RFCs, BCPs or CVEs, containing select keywords, from a particular time frame, or authored by entities like "Google" or "Huawei". This granularity ensures researchers capture essential information, as exemplified by the span from the late 2000s to 2023, covering WSs like "Network" and "TLS", and with intended purposes on "Standards Track", "Informational", or "Experimental". Users can drill down into specific IDs based on their version range, such as between [11, 40] for targeting later stage or more matured IDs. The dashboard is structured in three layers: the uppermost shows bibliographic information and relationships between IDs, STDs, RFCs, BCPs and CVEs; the center layer illuminates inter-ID references, and the lowermost offers intra-ID insights, including top contributors, commonly referenced sections, abbreviations, keywords, and data metrics. The dashboard's interactive nature, enhanced by user-friendly filters and sliders, facilitates an efficient data mining experience, **providing critical intelligence for further in-depth analysis, informed recommendations, and decision**

190 selected out of 285 Records | Reset All

Shortlist further by title, author, keyword, WG, STD, RFC, BCP, CVE etc

Export Results to Excel

CSV with ',' delimiter (US/UK/Asia Excel) CSV with ';' delimiter (EU Excel)

Internet Draft	Title	Working Group	Intended Status	Date	Version	Author(s)	STD (Internet Standard)	RFC (Request for Comment)	BCP (Best Current Practice)	CVE (Common Vulnerabilities & Exposures)	Referencing Prior ID	Refefenced by Later ID	Abbreviations
Working Group: SACM Working Group													
draft-ietf-sacm-coswid-24 Download	Concise Software Identification Tags	SACM Working Group	Standards Track	2023-02-24	24	H. Birkholz / Fraunhofer SIT / J. Fitzgerald-McKay / National Security Agency / C. Schmidt / The MITRE Corporation / D. Waltermire / NIST	STD 63 (1) / STD 66 (1) / STD 68 (1) / STD 94 (1)	RFC 8949 (10) / RFC 3986 (9) / RFC 4122 (7) / RFC 8610 (6) / RFC 2119 (6) / RFC 5198 (6) / RFC 7595 (6) / RFC 8412 (6) / RFC 3444 (5) / RFC 8174 (5) / RFC 3629 (5) / RFC 8322 (5) / RFC 8520 (5) / RFC 5646 (5) /	BCP 26 (5) / BCP 14 (3) / BCP 178 (3) / BCP 78 (2) / BCP 79 (1) / BCP 47 (1) / BCP 35 (1)		draft-ietf-cose-countersign-10 / draft-ietf-cose-rfc8152bis-struct-15 / draft-ietf-sacm-coswid-24	draft-ietf-suit-update-management-03 / draft-moran-iot-nets-03 / draft-irtf-t2trg-taxonomy-manufacturer-anchors-02 / draft-fossati-cose-profiles-01 / draft-ietf-rats-corim-01 / draft-irtf-t2trg-taxonomy-manufacturer-anchors-01 / draft-ietf-iotops-security-summary-00 / draft-ietf-rats-eat-21 / draft-ietf-suit-update-management-02 / draft-cds-rats-intel-corim-profile-00 / draft-fossati-cose-	PA - Posture Attribute (1) / URI - Uniform Resource Identifier (3) / TNC - Trusted Network Connect (1) / CBOR - Concise Binary Object Representation (3) / COSE - CBOR Object Signing Encryption (2) / CBOR - Convention Binary Object Representation (1) / CDDL - CoSWID Data Definition Language (1) / CDDL - Concise Data Definition Language (1) /

Table: Researchers can search by keywords and filter according to their needs to delve into relevant Internet Drafts (ID). An example is the document titled **"Concise Software Identification Tags" (draft-ietf-sacm-coswid-24)**. This discusses the ISO/IEC 19770 Software Identification (SWID) tags—an extensible XML structure designed to detail software components, patches, and bundles, though its representations might be too vast for some devices. This document is a collaboration between high-profile research institutes and U.S. government entities, including Germany's Fraunhofer SIT, the U.S. National Security Agency (NSA), National Institute of Standards and Technology (NIST), and a U.S.' major federal contractor, MITRE. An observant eye notes mentions of Internet Standards like STD 63, 66 and 68, as well as RFC 8949 (10 times) and RFC 3986 (9 times). BCP 26 stands out in Best Current Practices, cited 5 times. While no specific CVE is highlighted, the ID does reference prior IDs such as **draft-ietf-cose-countersign-10** and is cited by later ones like **draft-ietf-suit-update-management-03 and draft-moran-iot-nets-03, indicating IoT's security complications possibly addressed in the focal ID draft-ietf-sacm-coswid-24**. Such extracted interconnection enables professionals to discern topic correlations, trace developments, and anticipate future directions. Essential concepts highlighted within encompass terms like URI (Uniform Resource Identifier), TNC (Trusted Network Connect), and COSE (CBOR Object Signing Encryption). With the table's granular detail, investigators can quickly identify pivotal IDs over less relevant ones. This clarity empowers them to advance to the subsequent phase of analysis and decision-making, equipped with critical insights.