openIDS

WHITE PAPER
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PREPARED BY: OPENIDS COMMUNITY

THE CASE FOR OPEN INSURANCE DATA STANDARDS

Why the Property and Casualty Insurance Industry is Creating New Open Standards for Information Exchange

The property and casualty (P&C) insurance industry is at a critical juncture. For decades, insurers, reinsurers, brokers, and third-party vendors have relied on proprietary data formats resulting in limited agility, inefficiencies, and increased costs. In an era where data is the cornerstone of competitive advantage now for every industry, these legacy constraints are no longer sustainable.

A shift toward **open data standards** presents a transformative opportunity. By collectively building and widely-adopting a universally accepted, non-proprietary framework for data exchange, the industry can enhance interoperability, streamline operations, and accelerate innovation. This white paper explores why the adoption of open standards is not just an option – it is an **imperative for the future of insurance**.

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Abstract

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Can you imagine a universal and widely-adopted data sharing process for the P&C industry? What if the only thing that needs to be done is “turning on the spigot” to allow other parties to receive your data as a feed across it through a query? Wouldn’t it be great if a consensus-built format is open, non-proprietary, and future-proof? Can you see the opportunities in joining every other major global industry in their mutual industry benefits resulting from collective contribution to open source platforms – that actually shift bottom lines?

The Property and Casualty (P&C) insurance industry is undergoing significant transformation as technological advancements, increased regulatory scrutiny, and market demands for efficiency drive the need for seamless data exchange. Historically, proprietary data formats have been widely used to facilitate communication between carriers, reinsurers, and regulators. However, these formats often introduce barriers such as high costs, lack of interoperability, and vendor lock-in. In contrast, free and open standards offer a compelling alternative by providing universally accessible data exchange protocols that enhance collaboration, reduce costs, improve transparency, and foster innovation. Such standards should be non-proprietary and open through an organization that has decades of proven success in open governance and the capacity to maintain these frameworks and characteristics indefinitely. This paper explores the benefits and value proposition of building of non-proprietary and open standards in comparison to proprietary and closed formats and frameworks – highlighting key advantages in areas such as cost efficiency, scalability, regulatory compliance, and long-term adaptability. openIDS (open Insurance Data Standards) is proposed as a launched and currently functioning open standards framework-building project, built with, supported, and managed by the Linux Foundation, the largest global open source development platform.

The openIDS community seeks your support and participation in building the new and open P&C data standards framework.

The Problem: Costly, Fragmented Ecosystem

Today's insurance data landscape is marked by a patchwork of proprietary systems. Each organization often maintains its own data format, leading to significant inefficiencies:

- **High Integration Costs** – Custom-built APIs and data mappings demand continuous investment in IT resources AND added risk with increased usage.
- **Operational Bottlenecks** – Manual data translation and reconciliation slow down underwriting, claims processing, and analytics.
- **Limited Data Interoperability** – Fragmented data structures hinder collaboration between insurers, reinsurers, third-party service providers, and cross-industry opportunities.
- **Innovation Barriers** – Incompatible formats make it difficult to adopt emerging technologies such as AI, machine learning, and blockchain / decentralized technologies.

These inefficiencies don't just increase costs – they stifle agility and limit the industry's ability to respond to evolving risks and customer demands.

And missed opportunities for competitive differentiation and growth.

The Solution: Open Data Standards

Collectively building and successfully maintaining open standards provide a structured, shared framework for exchanging data across the insurance ecosystem and beyond. Unlike proprietary formats, open standards are:

- **Vendor-Agnostic** – No single entity controls the standard, ensuring a level playing field for all participants while promoting new market opportunities.
- **Interoperable** – Seamless integration across systems, reducing the need for costly, custom-built connectors.
- **Scalable** – Designed to evolve alongside emerging technologies and industry requirements and to and for the future.
- **Cost-Efficient** – Lower maintenance and integration costs, freeing up resources for new revenue stream exploration and strategic initiatives.

Introduction

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Most major industries have core data standards to increase efficiency and for innovation use cases and adoption. The insurance industry, however, is an outlier in data standards development and adoption.

In the P&C insurance industry specifically, the pursuit of an effective and secure data exchange among carriers, reinsurers, brokers, regulators, data providers/third-party vendors, and for cross-industry applications has yet to yield a successful, trusted mechanism.

Data exchange transformation is essential to meeting the industry's requirements for accuracy, risk management, and regulatory compliance. The gap in benefits such as efficient business functionality and heightened operational insights compared to other leading industries that have developed and adopted industry data standards is also affecting the industry's potential and growth. A secure, trusted, efficient exchange mechanism is essential to successfully matching the rate of global emerging technologies and their commercialization. As the industry itself has a significant impact on our economy at large, so will this needed collaborative effort for transformation.

Traditionally, proprietary data formats are used for insurance industry data exchange. The stronghold of and reliance on proprietary systems has limited needed innovation and resulted in loss of data control and ownership, fragmented data, high integration costs, and barriers to scalability. Non-proprietary and open industry standards present a solution to these challenges, offering a universally accepted, low-cost, secure, and flexible means of **sharing data across diverse systems and stakeholders**.

Open standards: publicly available specifications for data formats, communication protocols, and methodologies that promote interoperability and relieve the industry of required, ongoing licensing fees or intellectual property royalties. This paper investigates the benefits of adopting such standards in the P&C insurance industry, focusing on **how an open platform addresses the drawbacks of proprietary data formats while at the same time driving innovation, cost savings, and new opportunities for the industry as a whole**.

Done With Proprietary Data Formats

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The proven and trusted open governance model (by every other major global industry), the Linux Foundation platform allows for broader and more detailed standards to be created for every aspect of the P&C industry - such as data that is most often shared in the P&C insurance industry: policy and claims data.

LEARN MORE about how and why the Linux Foundation's open governance model is unique:

LINUX FOUNDATION OPEN GOVERNANCE MODEL

Each time insurance organizations need to share data, they must agree on a format. This format has a syntax and a semantic. The syntax defines the technical language used which might be JSON, Excel, CSV, or Flat File. The syntax also includes data types, entity names, and the field names. The semantic captures the meaning of the data. This includes the definition for codes, specific coverage names, etc. Both require considerable mental effort, time, and resources to arrive at an acceptable agreement between various parties involved.

Our current, de facto process of continuous re-inventing of ad hoc solutions and formats for each multi-party exchange is costly, time-consuming and, at best, achieves limiting, and often inaccurate, results.

Any new connection made, using a new format, must reestablish the syntax and semantics. Here are some situations that create new connections:

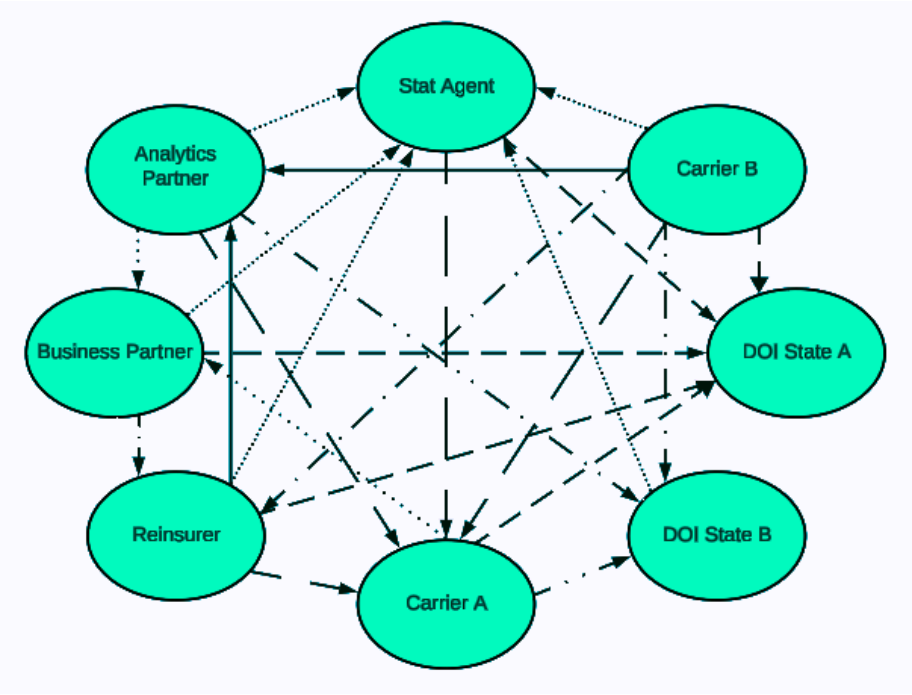
- A Company submits statistical data to statistical agent A
- A Company submits statistical data to statistical agent B

- A Company reports loss data to reinsurer A
- A Company reports loss data to reinsurer B

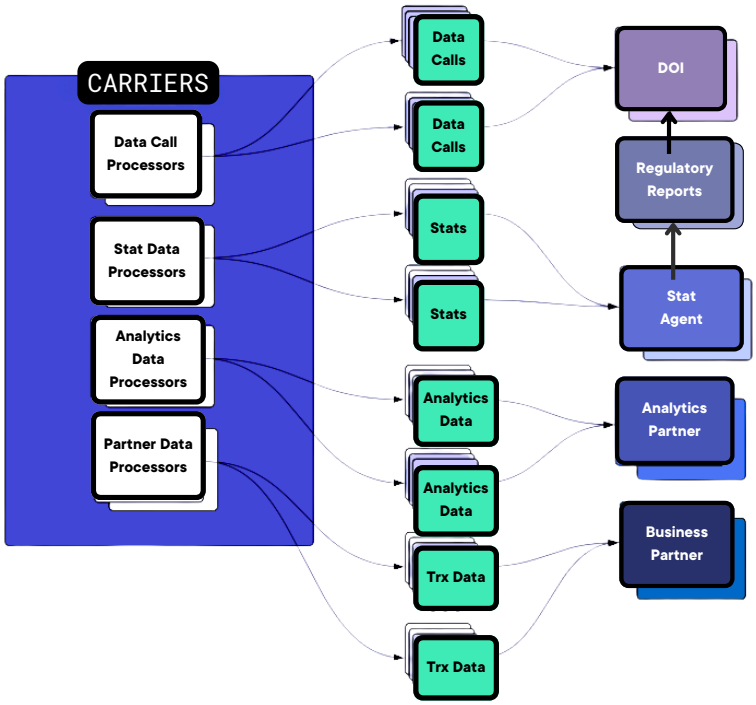
- A Company responds to a data call for DOI A
- A Company responds to a data call for DOI B

*DOI (Department of Insurance)

The Company must deliver data in many different formats. If more DOIs, Data Calls, Reinsurers, or Statistical Agents are added, meeting and matching the demands of the modern world, an explosion of individual formats are needed. Each format requires time and effort to define both the syntax and semantics.



// This diagram illustrates the explosion of different formats required for communications among organizations and firms in the P&C insurance industry.



// This diagram depicts the different kinds of data that carriers must produce when there is no standard format. Each of the document formats are likely to be different.

// The diagram also illuminates how the carrier's world is simplified with a data standard, such as openIDS. The carrier only needing to produce one format; this one-time conversion and implementation process of integrating systems to a universal and widely-adopted open data standards will provide the framework for data exchange such as Data Calls, Regulatory Reports, Analytics, and for sharing with Business Partners.

Limitations and Risks

of Proprietary Data Formats

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As the previous section illustrates, organizations in the P&C insurance industry utilize a wide variety of incompatible mechanisms to communicate and share data between multiple parties. Proprietary formats increase the cost of doing business while decreasing visibility and proven accuracy by making data exchange complicated and fuzzy. It is estimated that the industry as a whole is committing billions of dollars annually on managing and supporting proprietary data exchange. Further, broad adoption of a commercial standard from a vendor puts the industry at risk regarding cost, data limitations, and lack of control and options. A dominant vendor can charge higher prices, while limiting competition and innovation.

Conversely, a widely adopted, flexible, royalty-free open data standard encourages innovation and healthy competition, resulting in a variety of vendors and capabilities for supporting data exchange. In addition, open data standards will enable freedom for P&C participants that wish to develop in-house solutions and seamless, secure interoperability.

Over the long term, this approach supports flexible data exchange across the industry, dramatically improving efficiency while at the same time, offering substantial reductions in costs.

We’re building to last and grow.

While proprietary data formats have been the norm for many years, we're all feeling the range of disadvantages:

Lack of Interoperability	Proprietary data formats often make it difficult for different stakeholders in the P&C insurance value chain to communicate effectively. Carriers, reinsurers, and regulators may use different systems that are tailored to their individual needs and these systems are often not compatible with one another. As a result, data exchanges require complex mappings or translation tools, leading to inefficiencies and errors. Furthermore, the use of proprietary formats restricts the ability of industry participants to collaborate with newer or smaller players who may have adopted different technologies and/or cross-industry partners.
High Costs	Maintaining proprietary systems often involves significant upfront and ongoing costs. Insurance companies **must** invest in proprietary software, integration services, and data translation tools to ensure smooth data exchanges with other stakeholders. Additionally, ongoing licensing fees and vendor support costs can add financial strain. The proprietary nature of the formats also means that updates or changes to the data format typically require recurring, costly vendor negotiations and updates.
Vendor Lock-in	Proprietary formats tend to create vendor lock-in – when companies become dependent on a specific technology provider for continued support and system updates. This reduces flexibility as switching to a new system or vendor often involves significant investment in both time and resources. Moreover, vendor lock-in can limit innovation, as organizations may be restricted from adoption of emerging technologies due to incompatibilities with proprietary systems.
Data Fragmentation	Proprietary formats contribute to data silos – when each party maintains its own isolated set of data, often in non-standardized formats. This fragmentation of information can make it difficult to generate a unified view of risk, pricing, and/or performance across the entire value chain. Without a common language or format for communication, efficiency is hindered, and the potential for operational improvements is limited.

Benefits of Open Standards

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Open standards offer a range of benefits that directly address the shortcomings of proprietary data formats. These benefits include cost reductions, improved interoperability, enhanced regulatory compliance, and scalability.

Reduced Costs Through Royalty-Free Licensing

One of the most significant advantages of non-proprietary and open standards is the elimination of licensing fees or intellectual property royalties. Insurers, reinsurers, and regulators no longer need to pay for proprietary licenses or incur hidden costs associated with vendor lock-in. By using such open standards, organizations can **redirect resources that would otherwise be spent on licensing and software maintenance toward innovation, digital transformation, and core business operations**.

Enhanced Interoperability and Streamlined Integration

Open standards are designed to be interoperable across different systems, platforms, and technologies. This interoperability is crucial in the P&C insurance industry, where diverse stakeholders—ranging from carriers to regulators—must communicate seamlessly. With a standardized, open format for data exchange, organizations can integrate systems with far less effort, making it easier to collaborate with partners, adopt new technologies, and expand into new markets. Open standards also **support more agile and flexible integration, enabling organizations to adapt more quickly to market changes, customer demands, and regulatory requirements**.

Greater Transparency and Data Integrity

Open standards promote transparency by providing a uniform structure for data exchange. As these standards are publicly available, stakeholders have access to the underlying specifications, ensuring that data is processed and communicated in a consistent manner. This transparency builds trust, as all parties can continuously review the format and ensure that the data being exchanged is accurate and reliable. Furthermore, with standardized data formats, **the risk of errors due to misinterpretation or translation issues is significantly reduced, contributing to better data integrity and use of ever-increasing verifiable, valuable data.**

Easier Regulatory Compliance & Better Legislation

With open standards, data reporting becomes more efficient, cost-effective, and timely, resulting in more accurate and up-to-date information. This allows regulators to have a timely view - providing all parties, including regulators and policy-makers, with insight to optimize analysis and decision making. A clearer understanding of the market will lead to stronger, data-driven benefits for everyone such as aligning data definitions across the industry which creates a more efficient, timely, and accurate regulatory process for all organizations and individuals involved in the necessary processes.

Scalability and Future-Proofing

The scalability of open standards ensures that as the industry evolves, so too can the data exchange infrastructure. Because open standards are developed, maintained and updated by the openIDS community, they can accommodate future changes in technology, regulatory requirements, and market dynamics. Also, because these standards are community-built, -driven, and -governed, they are regularly updated to reflect the latest industry developments and best practices. This makes **open standards truly a future-proof choice** for organizations that want to avoid the risks of obsolescence associated with proprietary formats, which are becoming increasingly outdated or incompatible with emerging technology and its benefits. This is the future-proof framework for insurance data standards.

Accelerating Innovation and Collaboration

By adopting open standards, the P&C insurance industry fosters a more collaborative environment. Insurers, reinsurers, statistical agents, third parties, regulators, and cross-industry partners can more easily exchange ideas, tools, information, and technologies when they are operating on a common data platform. This collaborative spirit accelerates innovation as it opens stakeholders to R&D opportunities with emerging technologies, such as machine learning, blockchain, quantum computing, and artificial intelligence – meeting the rest of the leading global industries – without the constraints of proprietary systems. Furthermore, open standards **enable more efficient market entry for smaller players or startups, driving competition and encouraging the development of novel solutions**.

Mitigating Data Silos and Fragmentation

Open standards eliminate data silos by promoting a consistent format for information exchange across the entire value chain. With a unified approach to data, insurers, reinsurers, regulators, and cross-industry partners can all gain a comprehensive, real-time view of risks, claims, pricing, and market trends. This holistic view improves decision-making and fosters collaboration – ultimately enhancing the overall efficiency of the industry. With a common standard in place, **organizations can more easily share data with other industries, such as healthcare, transportation, or OEMs, unlocking new opportunities for cross-sector innovation and new market share.**

Managed by the Linux Foundation to be Forever Open

openIDS is a Linux Foundation project that is supported by its proven open governance model. By having an open community maintain ownership of the standard, the foundation ensures that it remains protected from malicious modifications or restrictive licensing practices that could hinder its usability for competitive and/or financial gain. This safeguards the standard from rent-seeking entities, aligning with our goal of keeping it open and accessible to all. The Linux Foundation provides **a trusted and neutral governance structure**.

In Essence, Open Standards are Made for Good Business

For insurance business and technology leaders, the adoption of open data standards is a strategic decision that yields tangible benefits:

- **Enhanced Data Accessibility** – Standardized formats ensure that data can be easily shared and utilized across internal and external systems.
- **Faster Time-to-Market** – Reduced integration complexity accelerates the deployment of new products and services.
- **Regulatory Compliance** – A common standard simplifies reporting and adherence to evolving regulatory requirements.
- **Stronger Ecosystem Collaboration** – Insurers, reinsurers, brokers, and technology providers and cross-industry partners can work more effectively together – driving industry-wide efficiencies and innovations.

These advantages collectively position insurers to thrive in the rapidly evolving digital landscape that all other leading global industries are able to harness through collaboration.

openIDS (open Insurance Data Standards) 06

Open Insurance Data Standards is an evolving set of comprehensive data standards designed to support the Property & Casualty (P&C) insurance industry. It offers a robust core insurance model along with a flexible framework for extensibility – enabling organizations to tailor the standards to their specific needs. openIDS provides clear specifications for data transmission – covering both transactional and aggregate levels – ensuring seamless communication and data consistency across the industry. The open standards framework supports **multiple languages and is fully extensible via schema evolution for safe, non-breaking tailored modifications; the specification also includes validations, calculations, and code taxonomies**.

//Brief Overview of openIDS

The openIDS core model provides **a unified and future-proof framework that supports all lines of business within the P&C insurance industry**. This open-source model serves as a **foundational data structure** that enables insurers, reinsurers, regulators, and other industry participants to exchange data seamlessly, reducing inefficiencies and improving interoperability. Unlike proprietary models that often focus on specific product lines or cater to a limited set of use cases, the openIDS core model is designed with flexibility in mind to span across P&C lines of business, specialty, parametric, and the new lines on their way.

Moreover, the core model is **built to facilitate comprehensive data exchange across the entire insurance ecosystem, including vendors, brokers & agents, data aggregators, risk management firms, statistical reporting entities, and actuarial analysis providers.** By standardizing how data is structured and shared, openIDS **minimizes the friction associated with proprietary formats, enabling faster, more accurate data exchanges.**

// Importance of an Extensible Standard

A critical aspect of the openIDS core model is its extensibility, which **allows for industry-wide adoption while also enabling customization for specific needs**. Insurance markets are always evolving – especially with new risks such as regulatory requirements, product innovations, and customer expectations emerging regularly. A rigid data model that cannot adapt to these changes will eventually become obsolete. openIDS addresses this fact by providing **a core structure that is stable and standardized while allowing organizations to introduce extensions that cater to unique business requirements.**

By combining **a robust core model with an adaptable extension mechanism**, openIDS not only addresses today's data exchange challenges but also positions the insurance industry for future innovation. Whether integrating with advanced analytics, AI-driven underwriting models, or blockchain-based contracts, **an open, extensible data standard ensures that P&C insurance remains agile and capable of meeting the demands of our rapidly increasing digital world**.

Learn More / Get Involved

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Open means all are welcome!

Feel free to drop into a call or explore previous call recordings / notes.

01

openIDS WORKING GROUP CALL

THE WORKING GROUP MEETS VIRTUALLY EVERY TWO WEEKS ON THURSDAYS AT **11-11:45AM EST**

ZOOM LINK

02

openIDS WORKING GROUP
Recordings & Transcripts

CALLS, AGENDAS, AND RECORDINGS / TRANSCRIPTS ARE AVAILABLE TO ALL.

MEETING AGENDAS & RECORDINGS

03

WHITE PAPER WORKING GROUP

This white paper is the work product and collective effort of the openIDS community. The goal is to continuously and collaboratively produce educational industry content defining the opportunity space and approach challenges in the development of standards for the entire insurance ecosystem.

MEETING INFORMATION

Come write the next openIDS White Paper with Us!

04

openIDS WIKI

The openIDL WIKI is a collaborative environment and information repository where openIDS participants can find information, collaborate, and share. Meeting agendas, links to recordings and documentation can be found on the WIKI.

openIDS WIKI

05

openIDS WEBSITE

The openIDS website is a hub for new and existing community members and participants to learn more about the mission and work of the organization, find out how to participate, and bring the work of openIDS to their own organizations.

EXPLORE SITE

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openIDS GITHUB

COMING SOON.

Conclusion

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The shift from proprietary data formats to open standards is more than just an improvement – it's a game-changer for the P&C insurance industry. By eliminating inefficiencies, reducing costs, and fostering seamless interoperability, open standards provide a smarter, more sustainable way to understand, use, and share data. This is the path to better collaboration, stronger innovation, and long-term industry resilience.

For too long, insurers, vendors, reinsurers, regulators and the entirety of the insurance industry ecosystem have been burdened by fragmented systems and expensive integrations. The industry's first non-proprietary and open standard-building and future-proof framework is the foundation of secure, transparent, and optimized data exchange.

The opportunity is here. The industry is ready. Now is the time to build a system that works for everyone.

Join the movement. Get involved. Help shape the future of insurance data exchange. This isn't just an idea – it's happening now. We invite you to be part of it.

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American Association of Insurance Services

THE LINUX FOUNDATION

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MEMBERSHIP

WHY OPEN SOURCE?

openIDS OVERVIEW

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