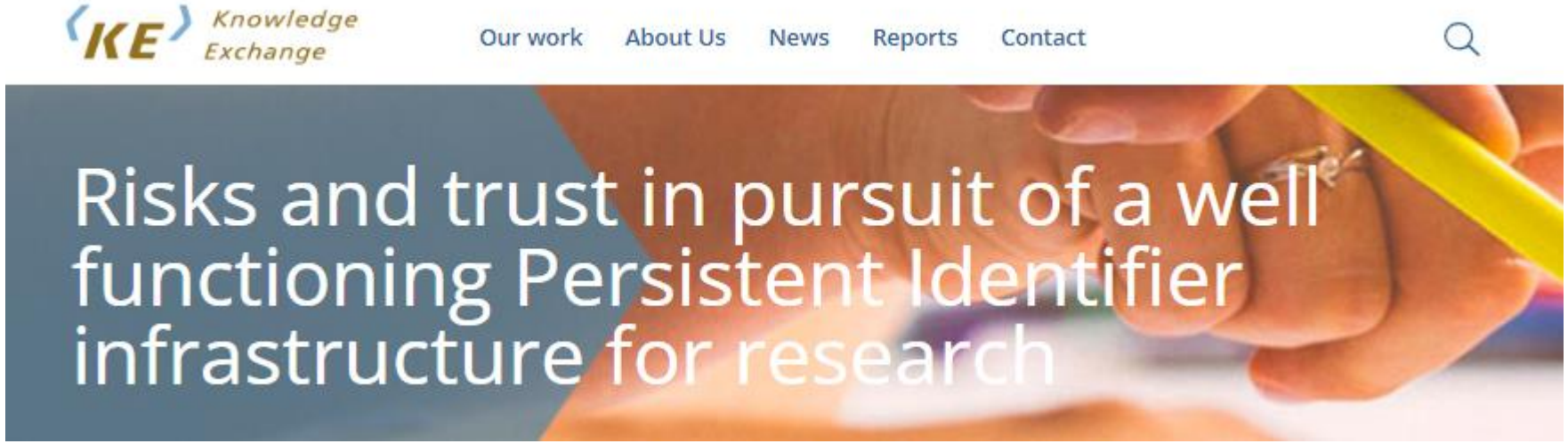

The (Currently) Fragmented PID Landscape: An Overview

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THE CASE STUDIES

Seven case studies have been produced as part of the study on PIDs.

Adoption of DAI in the Netherlands and subsequent superseding by ORCID/ISNI

Author IDs

The Dutch Digital Author Identifier (DAI) remains the best example to date for a successful superseding/replacement of an existing PID layer by a new, more comprehensive solution.

The gradual implementation of organisational identifiers (OrgIDs)

OrgIDs

OrgIDs are significantly more complex to implement than author IDs – the ownership of an OrgID record is in fact not as easy to assign as it is in the case of authors. Organisations change their name or merge rather often.

Persistent identifiers for research instruments and facilities

PIDINSTs

This case study aims to explore the challenges faced and the opportunities offered by the gradual implementation of emerging PIDs. The main focus of the case study is persistent identifiers for research instruments and facilities.

The role of research funders in the consolidation of the PID landscape

grant IDs

This case study aims to explore the key role research funders are expected to play in the gradual adoption of an ever wider range of PIDs across European countries.

IGSN – building and expanding a community-driven PID system

IGSNs

International Geo Sample Numbers (IGSNs) point to physical objects instead of to research outputs (as DOIs mostly do) or their creators. Besides, the service itself and its organisational framework were developed bottom-up via a sheer community-based effort.

RePEc Author Service: An established community-driven PID

Author IDs OrgIDs

The RePEc Author Service (RAS) is a useful complement to the DAI case study, as it has similarities to DAI in that it is a non-profit, community-based service, but also differences in that it is disciplinary, and especially as it survived the advent of ORCIDs.

Failed PIDs and unreliable PID implementations

DOIs PURLs

This case study illustrates the risks of PID failure due to lack of organisational support from two perspectives: PURL serves as an example where a PID provider ceased support for a system. The other perspective shows examples in which PID-managing organisations fail to implement otherwise properly working PIDs in their systems.

The (Currently) Fragmented PID Landscape

1. ‘Technical’ vs Admin-Oriented PIDs

- Technical PIDs: Researcher-led, bottom-up implementation, little if any direct involvement from research funders, research-perfoming organisations (RPOs) or national offices
  Examples: PIDs for instruments and facilities, IGSNs, ISRCTNs (International Standard Randomised Controlled Trial Numbers), Biomedical IDs (GenBank etc)

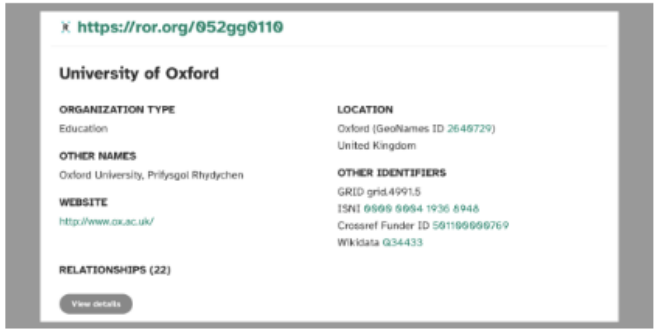
- Admin-Oriented PIDs: led (generally in a top-down fashion) by national offices, RPOs, publishers and (some) funders, all of whom directly reap the rewards. Little researcher involvement*, even awareness (as a rule)
  Examples: DOIs for publications/datasets, ORCIDs, RORs, Grant IDs, RAiDs, etc

** Researchers often see these as unwanted additional bureaucracy*

The (Currently) Fragmented PID Landscape

2. Competing Technical Solutions

- OrgIDs: ROR vs Ringgold, record maintenance and the issue of multiple-level Org IDs
- Author IDs: (national-level) DAI vs ORCID vs (discipline-specific) RePEc IDs
- Grant/Project IDs: Crossref DOI-based Grant IDs vs RAiDs
- DOIs vs (and?) Handle IDs/URNs/ARKs



Use the registry

The Research Organization Registry (ROR) includes IDs and metadata for more than 102,000 organizations and counting. Registry data is CC0 and openly available via a search interface, REST API, and data dump. Registry updates are curated through a community process and released on a rolling basis.

The (Currently) Fragmented PID Landscape

RESOLVING
Names to Things

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N2T Partners
API Documentation

Home > About N2T

About N2T.net

N2T.net (Name-to-Thing) is a "resolver," a kind of server that specializes in *indirection*. Resolvers serve content indirectly by forwarding most incoming requests to other servers rather than serving content directly (this page being an exception). Resolvers are good at redirecting requests to content servers, similar to URL shorteners like bit.ly and t.co.

Origins of N2T

N2T's technical infrastructure arose from the demand for a global ARK (Archival Resource Key) resolver. All that a basic resolver needs is software to look up a given incoming string in a table and to issue a "server redirect", as found in every web server since 1992. The approach taken by many systems (Handle, DOI, etc.), is to create a "silo" that only works for one type of identifier. Because making lookups fail except for certain parts of the alphabet is exclusionary and artificial, the ARK resolver design took a more open and general approach. The result was N2T, a scheme-agnostic resolver that currently works for over 900 types of identifier, including ARKs, DOIs, Handles, PURLs, URNs, ORCIDs, ISSNs, etc.

The main use of N2T is for "persistent identifiers". An archive or publisher that gives out content links (URLs) starting with n2t.net doesn't need to worry about their breaking when content eventually moves to different servers. Provided forwarding rules at N2T are updated, links starting with n2t.net remain stable. (All persistent identifier systems rely on this same basic principle.)

https://n2t.net/e/about.html

FAIRCORE4EOSC

Core Components Supporting a FAIR EOSC

FAIRCORE4EOSC focuses on the development and realisation of EOSC-Core components supporting a FAIR EOSC, addressing gaps identified in the SRIA. Leveraging existing technologies and services, the project will develop nine new EOSC-Core components aimed to improve the discoverability and interoperability of an increased amount of research

1. EOSC Research Discovery Graph (RDGraph) to deliver advanced discovery tools across EOSC resources and communities;
2. EOSC PID Graph (PIDGraph) to improve the way of interlinking research entities across domains and data sources on the basis of persistent identifiers (PIDs);
3. EOSC Metadata Schema and Crosswalk Registry (MSCR) to support publishing, discovery and access of metadata schemas and provide functions to operationalise metadata conversions by combining crosswalks;
4. EOSC Data Type Registry (DTR) to provide user friendly APIs for metadata imports and access to different data types and metadata mappings;
5. EOSC PID Meta Resolver (PIDMR) to offer users a single PID resolving API in which any kind of PID can be resolved through a single, scalable PID resolving infrastructure;
6. EOSC Compliance Assessment Toolkit (CAT) to support the EOSC PID policy compliance and implementation;
7. EOSC Research Activity Identifier Service (RAiD) to mint PIDs for research projects, allowing to manage and track project related activities;

...andscape

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The (Currently) Fragmented PID Landscape

3. ‘Community’: an ambiguous – and difficult to manage – concept

- PIDs and services associated with them need to be perceived as valuable and be in turn promoted by "the community"

2. Crossref grant IDs minted by research funders

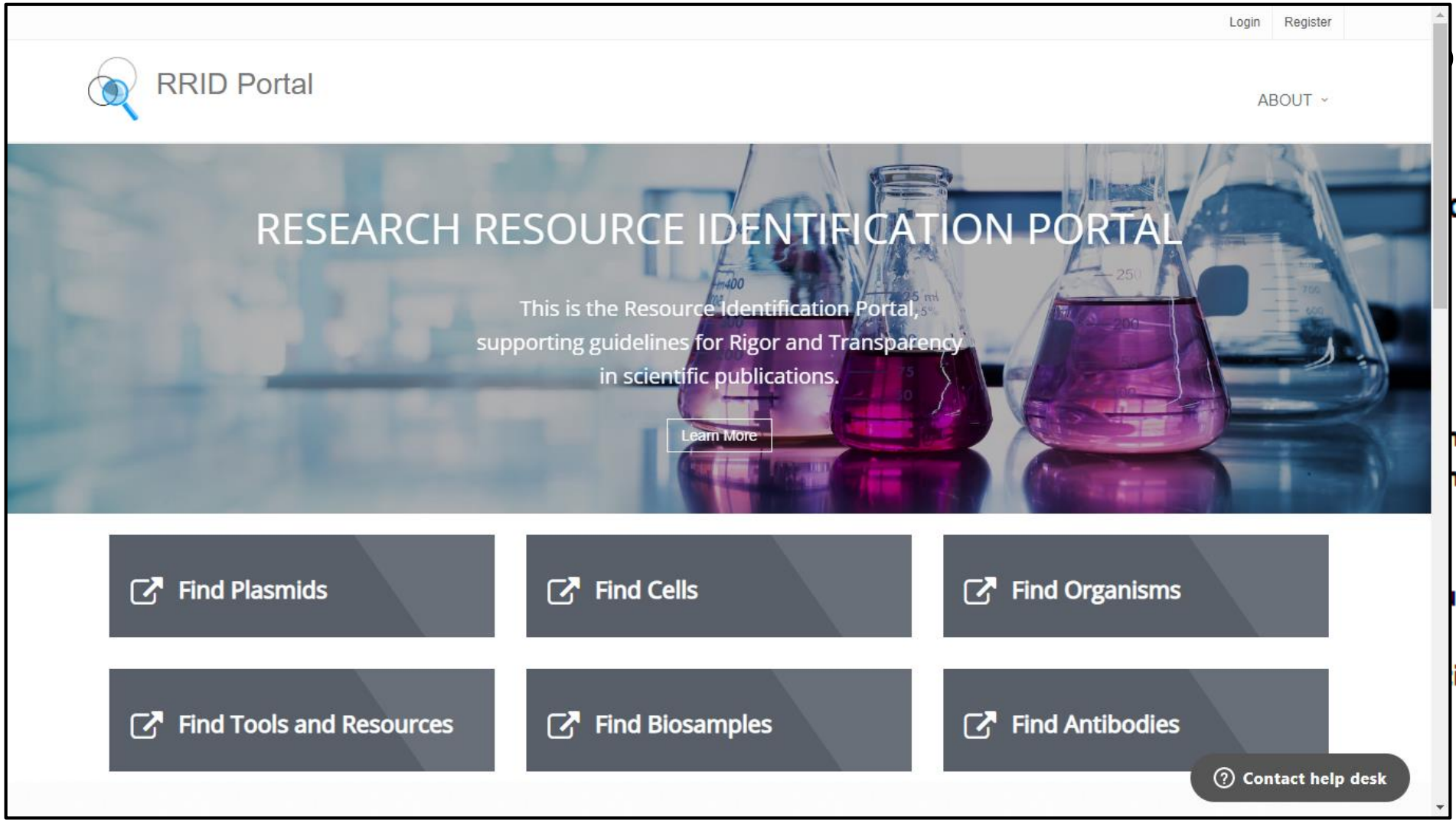
Stakeholder	Role
Crossref	PID service provider: Crossref assigns a stack of DOIs (via a funder ID praefix) to research funders and guarantees PID persistence and the correct resolving*
Research funder	PID manager: funders join the Crossref funder advisory group and gather the expertise to start minting grant IDs for their funded projects**
HEI	PID user: institutions store the grant IDs in the metadata set for funded projects they keep in their CRIS systems*** Grant IDs are included as a part of the RAiDs HEIs mint***
Researchers	PID user: prompted by their funders and HEIs, researchers include the grant IDs in the acknowledgements section of their manuscripts***
Publisher	PID user: publishers allow these grant IDs to be provided on the manuscript submission systems and include them in the metadata set exported to Crossref – allowing the references to be picked in for instance individual ORCID profiles***

PID community stakeholders

- **Governing bodies**
- **PID Service Providers**
- **(Possible) PID Federation**
- **RDA Working Groups**
- **PID-related projects and initiatives**
- **International coordination bodies**
- **Publishers**
- **National offices**
- **National research and education network (NRENs)**
- **Research funders**
- **HEIs/research centres/institutes**
- **Researchers**
- **Start-ups**

The (Currently) Fragmented PID Landscape

3. ‘Community’: an ambiguous – and difficult to manage – concept



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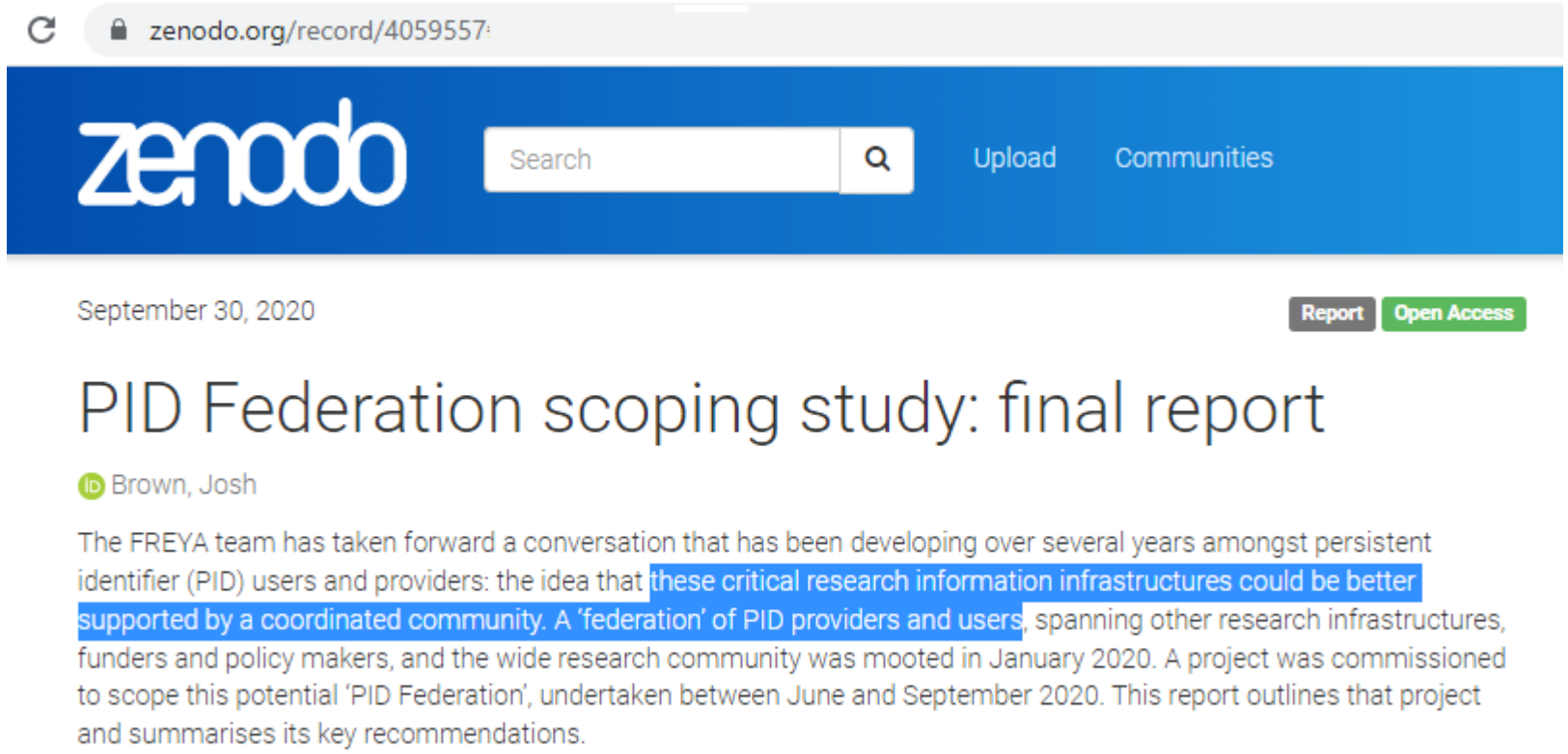
Two Recommendations from the PID Study to Improve Coordination

- PID Federation / PID Observatory

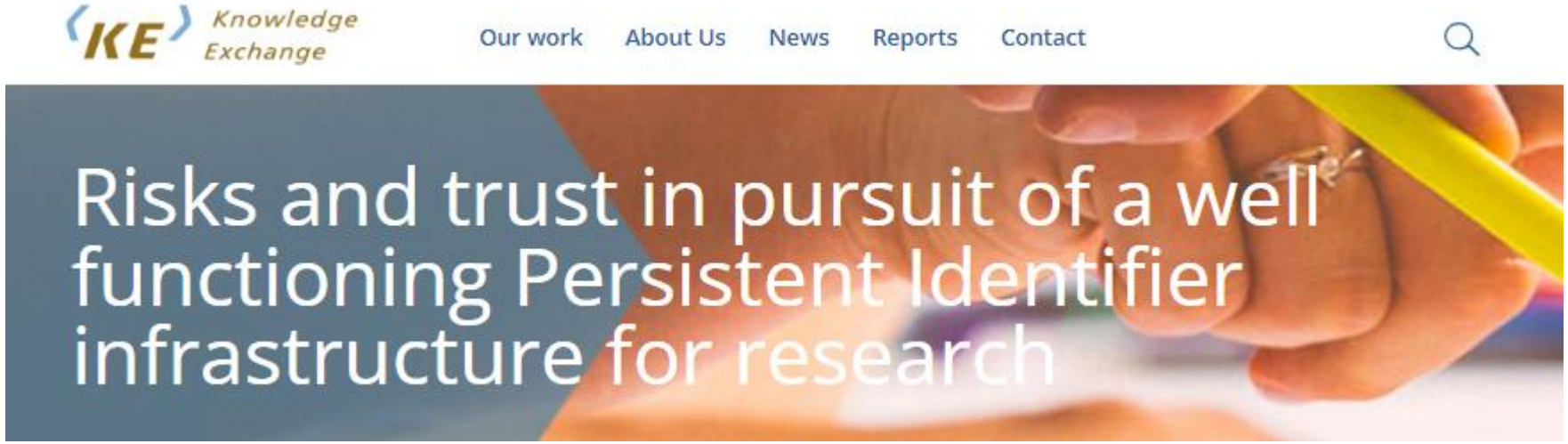


Two Recommendations from the PID Study to Improve Coordination

- PID Federation / PID Observatory

funders and policy makers, and the wide research community was mooted in January 2020. A project was commissioned to scope this potential 'PID Federation', undertaken between June and September 2020. This report outlines that project and summarises its key recommendations.

- Series of PID-focused events to replace PIDapalooza



Thanks!

Questions?

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