Eurostars Project

3DFed – Dynamic Data Distribution and Query Federation

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Deliverable 6.8

Final Report on Performed Dissemination Activities

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Abstract:

The aim of Deliverable D6.8 (Final Report on Performed Dissemination Activities) is to explain the dissemination objectives, phases of dissemination, dissemination target groups, the tactics which have been used for dissemination and the dissemination plan, and to explore the activities carried out within the dissemination of the project.

History

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Author List

Organization	Name	Contact Information
University of Paderborn	Muhammad Saleem	saleem@informatik.uni-leipzig.de
elevait GmbH & Co. KG	Martin Voigt	martin.voigt@elevait.de
elevait GmbH & Co. KG	Mohammad Sajjadi	mohammad.sajjadi@elevait.de
OpenLink Software	Hugh Williams	hwilliams@openlinksw.com
OpenLink Software	Milos Jovanovik	mjovanovik@openlinksw.com
OpenLink Software	Mirko Spasić	mspasic@openlinksw.com

Contents

1 Introduction

1.1 Executive Summary

This deliverable D6.8 "Final Report on Performed Dissemination Activities" provides an explanation on the dissemination objectives, phases of dissemination, dissemination target groups, the tactics which have been used for dissemination and the dissemination plan, as well as a high-level overview of the Dissemination activities executed by the 3DFed consortium during the whole project, from April 2021 to March 2024.

1.2 3DFed Overview

Datasets for modern applications are commonly distributed and increasingly too large to fit into a single server. Current distributed solutions are designed for central storage or at best static data distribution, which can result in poor query performance. Modern end-user applications, however, require results within milliseconds. Thus, there is an increasing need for intelligent and efficient data distribution and federated query engines to deal with these large amounts of data.

3DFed aims to develop generic approaches for the automatic redistribution and federated querying of large distributed datasets to facilitate the development of high-performance distributed data storage solutions. The final output will be a set of W3C-standard-conformant tools that implement automatic data distribution, federated query planning and execution, dynamic data exchange mechanisms, data storage profiling (containing useful information/statistics about the underlying data) and data monitoring.

1.3 3DFed Consortium

The DICE research group in UPB develops a large number of high-impact frameworks including CostFed, FEASIBLE, OntoWki, LIMES, AGDISTIS, FOX and many others. It is an active member of the Semantic Web community, leading or participating in many eminent Linked Data projects such as the DBpedia project, LinkedGeoData and LinkedTCGA. Finally, DICE has won several best research paper awards at top conferences (e.g. ISWC, ESWC) as well as several research challenges at Semantics, ISWC and ESWC.

OpenLink Software is a SME established in the UK in 1992 and has a business development and sales subsidiary in the USA. Most product development takes place within the EU, including the UK, Netherlands and Bulgaria. OpenLink Software is a leading provider of RDF database technology and universal data access middleware. Its products include the Virtuoso DBMS. OpenLink has extensive experience in scalable RDF data management through its Virtuoso product. OpenLink is a key player in the linked data world, hosting such services as Dbpedia, the LOD cache, Open PHACTS and providing RDF database technology to Fortune 500 corporations such as Bank of America, Booz Allen Hamilton, Elsevier, French National Library, Globo, Syngenta and more.

"Sustainable AI makes the difference." – The mission of elevait GmbH & Co. KG (in short: elevait) is to provide sustainable AI software products for companies of all sizes. Founded in 2021, elevait is a German AI software company with locations in Triberg in the Black Forest and Dresden. As a leading AI software provider in the enterprise environment, elevait combines modular, reusable software components, generic machine learning models and with the possibility to use company-specific, formalized knowledge. Through a productive and easy use of Artificial Intelligence, elevait offers its customers an immediate, unique competitive advantage.

2 Dissemination Plan

2.1 Dissemination Objectives

The 3DFed dissemination activities were conducted in order to reach the following objectives:

- Raising awareness about the project's vision and goals.
- Establishing collaborations with potential clients in order to obtain valuable information for Exploitation.
- Engaging expert teams and individuals for further cooperation on expansion and developments of our achievements.
- Ensuring maximum impact of the project's scientific and technological achievements.

2.2 Two phases of 3Dfed dissemination

The dissemination plan of 3Dfed consists of two main phases, defined to ensure a systematic approach to sharing project information, allowing for targeted engagement and effective communication. These phases are described below, and depicted in Figure 1.

- **Initial Engagement and Awareness Building**: This phase focuses on introducing the project to the target audience, raising awareness about its objectives, and generating interest among stakeholders and relevant communities.
- **In-depth Communication and Collaboration**: This phase involves deeper engagement with stakeholders, sharing detailed project updates, findings, and outcomes. It aims to foster collaboration, solicit feedback, and maximize the impact of the research results through effective communication channels.

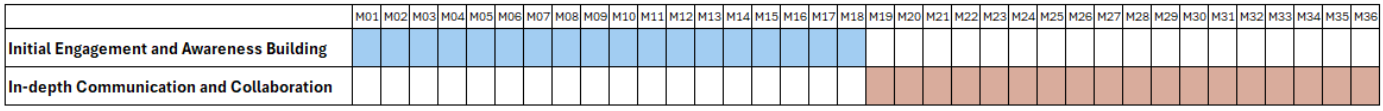

Figure 1: The 3DFed Project's Dissemination Phases

2.3 Dissemination Target Groups

- **Decision makers**: The executive and technical managers within the companies, that might be the potential customers of approaches implemented in 3DFed.
- **Researchers**: The scientific researchers in the relevant fields, who have interest in topics such as Knowledge Graphs, RDF, Dynamic data exchange, query optimization, etc.
- **Technical Experts**: Those who are involved in the industrial use cases related to the project, and already have or want to gain hands on experience in such fields.
- **3DFed Consortium**: Individuals who are officially cooperating with any of the project partners and have a direct or indirect involvement in the 3DFed project.

2.4 Dissemination Tactics

The communication and dissemination of 3DFed project is organised using several different tactics. Here the tactics are listed and briefly explained.

- **Deliverable Reports**
  Project deliverable reports are a key dissemination tactic, as they provide comprehensive documentation

of our progress, findings, and outcomes. By transparently sharing this detailed information, we effectively communicate with stakeholders and ensure broad knowledge dissemination within our target audience. These essential project deliverable reports are prominently featured on the 'Results' page of our project website, offering a centralized hub for stakeholders to access comprehensive information. List 1 shows all published deliverables, providing a detailed overview of our achievements and progress.

- **D1.1 Requirement elicitation and use case specifications**
  This report presents the requirement specification for the 3DFed use cases, which will be the basis for the design of the 3DFed architecture.
- **D1.2 Component architecture and interfaces**
  This report first presents a detailed survey of state-of-the-art techniques in RDF data partitioning and federated SPARQL query processing. Based on the requirements specified in Task 1.1 and the survey results, we then present a detailed technical architecture of 3DFed.
- **D2.1 Report on Data Storage Profile Generation**
  This deliverable has the goal of describing the results from our activities on T2.1, i.e. the development and deployment of a profile generation module into our SPARQL endpoint monitoring platform, which was developed in T2.2 and described in D2.2. This profile generation module has the purpose of generating useful metadata profiles (VoID, SPARQL Service Description, dataset coherence and relationship specialty) of the monitored SPARQL endpoints, i.e. the monitored data storage solutions.
- **D2.2 Report on Monitoring the Data Storages**
  This deliverable aims to provide an overview and describe the results from the development and deployment of a SPARQL endpoint monitoring platform by the consortium.
- **D3.1 Initial Report on the Automatic Data Distribution**
  In this deliverable we propose two techniques that make use of the querying workload to detect the portions of RDF graphs that are often queried concurrently.
- **D3.2 Final Report on the Automatic Data Distribution**
  In this deliverable, the two workload-aware RDF graph partitioning techniques PCM and PCG proposed in the previous deliverable are evaluated using various real-world data and query benchmarks.
- **D3.3 Initial Report on the Dynamic Data Exchange**
  In this deliverable we proposed a method to do the dynamic data exchange between nodes and did the initial evaluation based on Koral engine, applied on the Semantic Web Dog Food dataset.
- **D3.4 Final Report on the Dynamic Data Exchange**
  In this deliverable, we present more detailed results about the proposed dynamic data exchange mechanism, using the DBpedia dataset based on CostFed.
- **D4.1 Initial Report on the 3DFed Federation Engine**
  In this deliverable we present an intelligent join-aware source-selection technique for SPARQL-endpoint federation which will later be used to generate optimized query execution plans.
- **D4.2 Final Report on the 3DFed Federation Engine**
  In this report, we present the complete version of the CostFed, an index-assisted federation engine for federated SPARQL query processing. We present the complete evaluation results.
- **D6.7 Intermediate Report on Performed and Planned Dissemination Activities**
  The aim of Deliverable D6.7 is to describe the dissemination activities carried out within the first 18 months of the project, as well as those planned for the upcoming 18 months, following the procedure described in the Dissemination Plan.

List 1: List of the deliverable reports published in 3DFed project

- **Scientific Publications**
  With a focus on researchers and technical experts who are interested in the project's results, the project team uses scientific publications as a beneficial dissemination tactic to engage more interested audience, maintain collaborations, and ensure the impact of project outcomes. All the papers which have been published under the acknowledgement of 3DFed, are listed in List 2:

  – **A Survey of RDF Stores & SPARQL Engines for Querying Knowledge Graphs** Waqas Ali · Muhammad Saleem · Bin Yao · Aidan Hogan · Axel-Cyrille Ngonga Ngomo
  Article in The VLDB Journal · October 2021, DOI:10.1007/s00778-021-00711-3
  – **Efficient Distributed Path Computation on RDF Knowledge Graphs Using Partial Evaluation** Qaiser Mehmood · Muhammad Saleem · Alokkumar Jha · and Mathieu d'Aquin
  Article in World Wide Web · November 2021, DOI: 10.1007/s11280-021-00965-5
  – **Efficient RDF Knowledge Graph Partitioning Using Querying Workload** Adnan Akhter . Alexander Bigerl . Muhammad Saleem . Axel-Cyrille Ngonga Ngomo
  K-CAP Conference · November 2021, DOI:10.1145/3460210.3493577
  – **µ-Bench: Real-world Micro Benchmarking for SPARQL Query Processing over Knowledge Graphs** Muhammad Saleem, Adnan Akhter, Sahar Vahdati and Axel-Cyrille Ngonga Ngomo
  11th International Joint Conference On Knowledge Graphs (IJCKG 2022), DOI: 10.1145/3579051.3579054
  – **Solving the SPARQL query containment problem with SpeCS** Mirko Spasić and Milena VujoševićJaničić
  Journal of Web Semantics Volume 76, April 2023, 100770, DOI: j.websem.2022.100770
  – **RELD: A Knowledge Graph of Relation Extraction Datasets** M. Ali, M. Saleem, D. Moussallem, M. Sherif, and A. Ngomo.
  Extended Semantic Web Conference 2023, DOI: 10.5281/zenodo.7429677
  – **How do Query Features correlate with Runtime? An evaluation of SPARQL Querying Interfaces** Muhammad Saleem, A. Ngomo., and Hashim Khan
  Transactions on Graph Data and Knowledge (TGDK) · March 2024.

List 2: List of the papers published under the acknowledgement of 3DFed

- **Website**
  One of the main communication and dissemination channels is the project website: www.3DFed.com. The website was set up and launched in September 2021. The 3DFed project website is the key tool for communicating information about project activities, news and events, as well as to convey results to a wide range of target groups. The website was created in line with the visual identity (shown in Figure 6) and is continuously maintained by **elevait** with contributions from all partners. The website contains a home page with a brief introduction, along with a section on 'News', where the most relevant news about the project and important topics are published. An image of the website homepage is shown in Figure 2. The website also includes the following pages:
    – **Team**: The consortium partners and team members are briefly introduced here.
    – **Publications**: The publications which are related to the project are listed here.
    – **Results**: All the project deliverables are listed here.
    – **Contact us**: A contact form is embedded in this section.
- **Social Media: X.com** *(former Twitter)*
  In 3DFed, communication and dissemination activities are also carried out through project channel in X.com[1]. The X.com channel is aimed at reaching a wide variety of project's target audience, in order to raise awareness and initiate collaborations. Figure 3 shows the home page of the 3DFed X.com account.
  In recognition of the time-intensive nature of establishing new promotional channels for the project, partners

[1] https://x.com/3DFed_EuroStars

opted to leverage their existing active social media platforms to extend outreach to a broader audience. Figure 4 illustrates the analytics of a post promoting a project event through elevait's LinkedIn channel, exemplifying the efficacy of this approach[2].

- **Social Media: ResearchGate**
  Researchgate is a professional network for scientists and researchers, to connect, share and access scientific output, knowledge, and expertise. The platform is used by 17 million members from all over the globe, with a mission of connecting the world of science and making research open to all. In 3DFed the project deliverables are published on ResearchGate page. The 3DFed ResearchGate project is shown on Figure 5 and accessible under 3DFedEuroStars[3].
  The Projects feature was discontinued by the owners [4]. However, all the publications can be found on Researchgate by using the key word **Eurostars Project 3DFed**.
- **Blog Posts**
  In 3DFed, in addition to the project's website, other related channels were used to disseminate the achieved results. This included publishing results, use cases, challenges or lessons learned through the project, on official channels of consortium parties, or relevant blogs and forums. Such blog posts were published during the 2nd 18 months of the project, when more tangible results were available.
- **Workshops and Presentations**
  In occasional instances, workshops will be incorporated into our dissemination plan as an additional avenue for sharing project insights and fostering collaboration with stakeholders. While these workshops and presentations may occur infrequently, they offer valuable opportunities for in-depth discussions, knowledge exchange, and community engagement, complementing our broader dissemination efforts. Figure 8 shows a presentation with topic "European project: 3DFed – Dynamic Data Distribution and Federation", held by Mirko Spasić in October 2023 at MathVerse Conference on Mount Tara in Serbia.
  In addition to traditional dissemination methods, the presentation of project-related papers at conferences, where the 3DFed project's contributions were acknowledged, serves as an effective means of reaching broader audiences. The list of these papers is detailed in the "Scientific Publications" section. Furthermore, Figure 9 showcases two examples of such presentations, highlighting the 3DFed project's recognition and impact within academic circles.
- **Flyers & Leaflets**
  The dissemination activities in 3DFed aim to spread awareness regarding the activities and outcomes of the project, in order to maximise the impact of the project's work through public events and conferences, and engage with the key target groups. Within the second 18 months of the project life, the team has planned to benefit from this tactic as well. Figure 10 shows a sample of flyers which were designed by elevait, to distribute during some events.
- **Visual Identity**
  As part of our dynamic dissemination strategy, we have implemented a compelling Visual Identity, featuring a distinctive logo and vibrant color palette. This cohesive visual representation enhances brand recognition, ensuring a memorable and impactful presence for our research project. Figure 6 shows the 3Dfed logo and color palette, as the main elements of visual identity.
- **Plenary f2f Events**
  The project team planned to gather annually for internal plenary meetings, integral to the dissemination strategy. These sessions, exclusive to team members, serve as dedicated forums for disseminating comprehensive project updates, sharing critical findings, and fostering collaboration. Moreover, these gatherings can facilitate brainstorming and discussions to anticipate possible challenges, ensure proactive problem-solving and a cohesive approach throughout the research endeavors. The aim is to have three events in total, each hosted by one of the

[2] https://www.linkedin.com/posts/elevait-gmbh_3dfed-projectupdates-techinnovation-activity-7110880437614333953-2fTL?utm_source=share&utm_medium=member_desktop
[3] https://www.researchgate.net/project/3DFed-EuroStars
[4] https://www.researchgate.net/researchgate-updates/retiring-projects

project partners. Figure 7 includes photos of the first two events, in Dresden and London.

- **Online Jour Fixe Meetings**
  The project team conducts regular internal jour fixe meetings, exclusively for team members. These sessions serve as crucial forums for disseminating project updates, facilitating discussions, and enhancing collaboration within the team. The closed nature of these meetings allows for open and focused communication, fostering a cohesive and informed approach to our research objectives.

Figure 2: The 3DFed Project's Website Homepage

Figure 3: The 3DFed Project's X.com Account

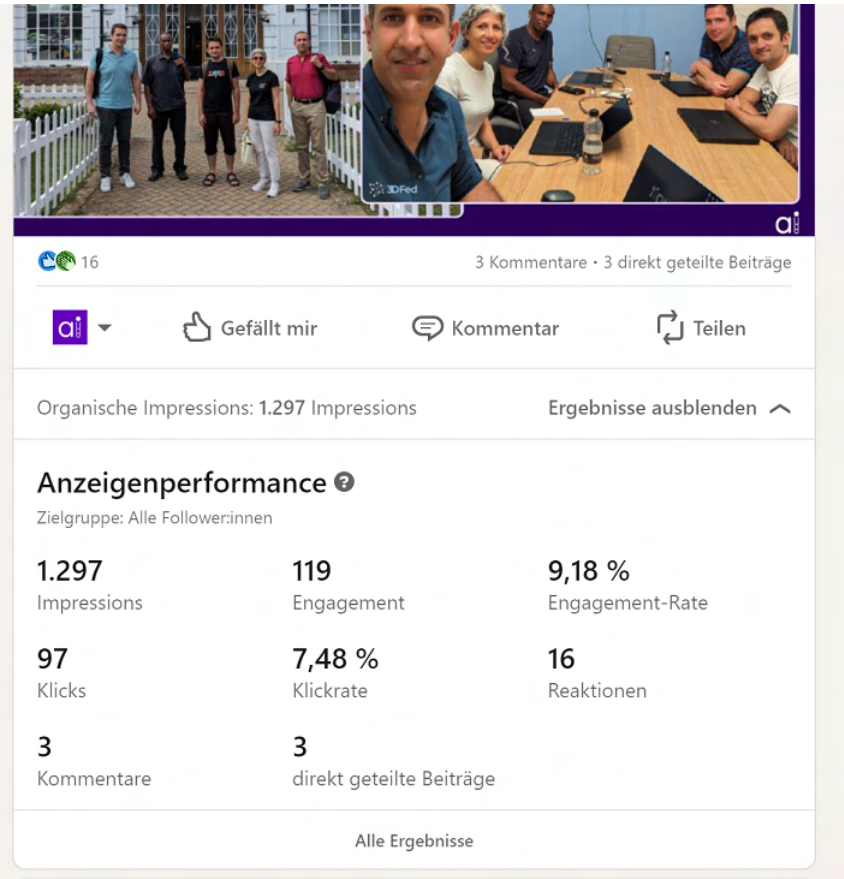

Figure 4: LinkedIn Post Analytics promoting a project event

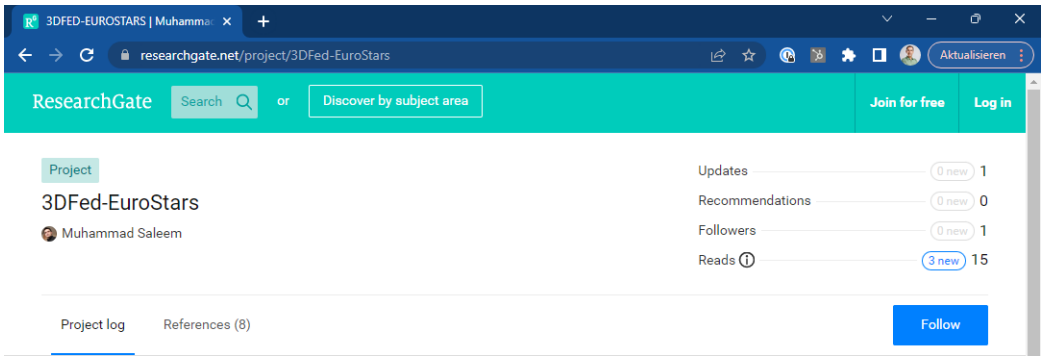

Figure 5: 3DFed Project on Researchgate

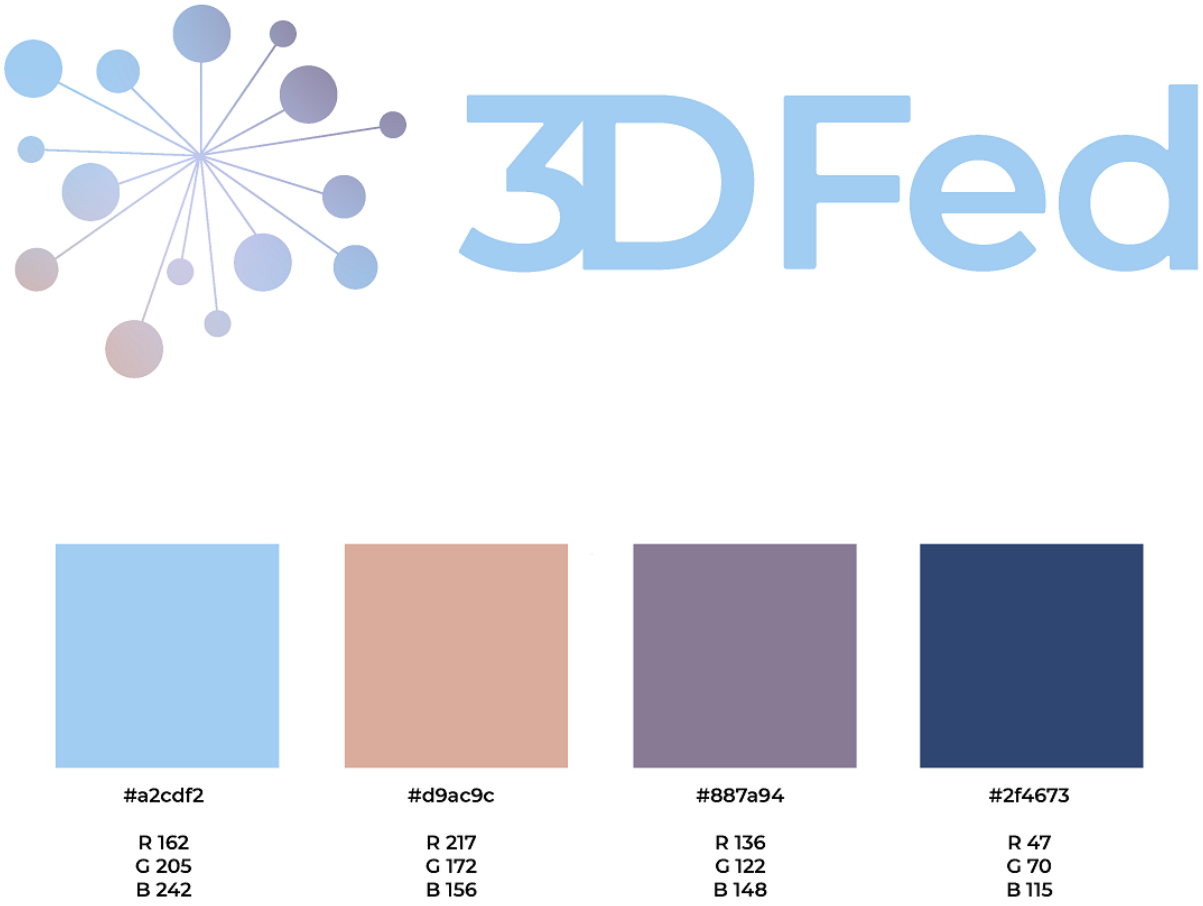

Figure 6: The 3DFed Project's Visual Identity

(a) The 1st event: Dresden, 2022

(b) The 2nd event: London, 2023

Figure 7: The 1st and 2nd 3DFed Plenary Events

Figure 8: European project: 3DFed – Dynamic Data Distribution and Federation
A presentation held by Mirko Spasić in October 2023 at MathVerse Conference on Mount Tara in Serbia

Figure 9: Exemplary presentations from conference publications where 3DFed were acknowledged

Revolutionäre Fortschritte in der Datenverteilung

Ein Blick auf Automatische Datenverteilung und Dynamischen Datenaustausch im Forschungsprojekt 3DFed

In der heutigen digitalen Landschaft sind die Datensätze, die moderne Anwendungen antreiben, über die Kapazität einzelner Server hinausgewachsen. Bestehende verteilte Lösungen, die für zentrale Speicherung oder statische Datenverteilung konzipiert sind, führen oft zu suboptimaler Query-Leistung. Moderne Anwendungen verlangen nahezu sofortige Ergebnisse, was intelligente und effiziente Datenverteilung sowie föderierte Query-Engines erfordert, um umfangreiche Datensätze zu bewältigen. Unser Projekt adressiert diese Herausforderung durch die Entwicklung universeller Lösungen für die automatische Umverteilung und föderierte Abfrage großer verteilter Datensätze. Das Ziel besteht darin, die Entwicklung leistungsstarker verteilter Datenspeicherlösungen zu ermöglichen.

Das Projektergebnis umfasst W3C-standardkonforme Tools, die automatische Datenverteilung, Planung und Ausführung föderierter Queries, dynamischen Datenaustausch, Profilierung der Datenspeicherung und Datenüberwachung abdecken.

Ein Hauptziel des Projekts beinhaltet die Schaffung innovativer Lösungen für das Management von RDF-Daten mit hoher Leistung, wie etwa einen Automatischen Datenverteiler und einen dynamischen Datenaustausche. Der dynamische Datenaustausch optimiert die Berechnungslasten, indem die Datennähe priorisiert wird. Die Datensicherheit wird durch vordefinierte Richtlinien gewährleistet. Gestartet am 1. Oktober 2021 und von elevait im Jahr 2023 weitergeführt, konzentriert sich dieses Arbeitspaket darauf, wie Daten intelligent und effizient über verschiedene Speicherorte verteilt werden können.

Automatische Datenverteilung (T3.1)

Die erste Aufgabe, die sich hinter dem technischen Begriff "Automatische Datenverteilung" verbirgt, widmet sich der Entwicklung cleverer Algorithmen. Das Ziel ist es, große vernetzte Datensätze auf physische Speicherorte oder innerhalb von Clustern zu verteilen. Im Berichtszeitraum wurden innovative Techniken wie PCM und PCG eingeführt und erfolgreich mit bestehenden Ansätzen verglichen. Die Ergebnisse zeigen eine überlegene Leistung bei der Ausführung von Abfragen.

Dynamischer Datenaustausch (T3.2)

Die zweite Aufgabe, der "Dynamische Datenaustausch", öffnet Türen für effektive Möglichkeiten, wie Daten zwischen verschiedenen Speicherlösungen ausgetauscht werden können. Hierbei wird frisches Query-Log verwendet, um Daten dynamisch zwischen den Datenspeicherlösungen zu verschieben. Ziel ist es, die Leistung zu optimieren und die Last gleichmäßig zu verteilen. Die Evaluierung auf dem vielfältigen DBpedia-Datensatz zeigt vielversprechende Ergebnisse.

Ergebnisse und Ausblick

Die Konzepte aus Arbeitspaket 3 haben zu bedeutenden Fortschritten in der Datenverteilung geführt. Durch die Automatisierung von Datenverteilung und den dynamischen Datenaustausch versprechen die entwickelten Konzepte nicht nur eine verbesserte Leistung, sondern auch eine effizientere Nutzung von Ressourcen.
Detaillierte Ergebnisse verdeutlichen den Erfolg des dynamischen Datenaustauschs, indem sie einen Rückgang der Query-Laufzeit und einen Anstieg der Query per Second (QpS) zeigen.

Revolutionary advances in data distribution

An insight into automatic data distribution and dynamic data exchange in the 3DFed research project

In today's digital landscape, the data sets driving modern applications have outgrown the capacity of individual servers. Existing distributed solutions designed for centralized storage or static data distribution often result in sub-optimal query performance. Modern applications demand results almost instantaneously, requiring intelligent and efficient data distribution and federated query engines to handle large data sets. Our project addresses this challenge by developing universal solutions for automatic redistribution and federated querying of large distributed datasets. The goal is to enable the development of high-performance distributed data storage solutions

The project deliverables include W3C standards-compliant tools covering automatic data distribution, scheduling and execution of federated queries, dynamic data exchange, data storage profiling and data monitoring.

A key objective of the project includes the creation of innovative solutions for high performance RDF data management, such as automatic data distribution and dynamic data exchange. Dynamic data exchange optimizes computational loads by prioritizing data proximity. Data security is ensured by predefined guidelines. Launched on October 1, 2021 and continued by elevait in 2023, this work package focuses on how data can be distributed intelligently and efficiently across different storage locations.

Automatic data distribution (T3.1)

The first task associated with the technical term "automatic data distribution" is dedicated to the development of intelligent algorithms. The aim is to distribute large networked data sets to physical storage locations or within clusters. During the reporting period, innovative techniques such as PCM and PCG were introduced and successfully benchmarked against existing approaches. The results show superior performance in the execution of queries.

Dynamic data exchange (T3.2)

The second task, "Dynamic Data Exchange", provides effective ways of exchanging data between different storage solutions. Here, fresh query logs are used to move data dynamically between the data storage solutions. The aim is to optimize performance and distribute the load evenly. The evaluation on the diverse DBpedia dataset shows promising results.

Results and outlook

The concepts from work package 3 have led to significant progress in data distribution. By automating data distribution and dynamic data exchange, the concepts developed promise not only improved performance but also more efficient use of resources. Detailed results illustrate the success of dynamic data exchange by showing a decrease in query runtime and an increase in query per second (QpS).

3DFed

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Figure 10: Flyer prepared in German and English, distributed by elevait

2.5 Comprehensive Overview of Dissemination Tactics and Achievements

Providing a consolidated snapshot of our dissemination endeavors, Table 1 offers a Comprehensive Overview of Dissemination Tactics and Achievements. Each tactic is meticulously detailed, outlining its specific objectives, target audience groups, the intended aim, achieved results, and current status references. By summarizing our dissemination efforts in one consolidated view, this table provides valuable insights into the effectiveness and impact of our dissemination strategies.

Objectives	Target Groups	Aim and achieved results	Status References
Deliverable Reports			
Raising awareness Establishing collaboration Engaging experts Ensuring impact	All	Project deliverable reports serve as vital dissemination tools, offering detailed documentation of our progress, findings, and outcomes to effectively communicate with stakeholders and ensure broad knowledge dissemination. Featured prominently on the 'Results' page of our project website, these reports provide a centralized hub for stakeholders to access comprehensive information.	In total 15 deliverable reports were published by the partners. Used on different channels. → Accssessible on Results Page on project website.
Visual Identity			
Establishing collaboration Engaging experts Ensuring impact	All	A visual identity was created at M4 including elements that will represent the project in a distinct and consistent way such as logos and colors.	Shared with consortium partners in project drive. Used on different channels. → Achieved on M4.
Project Website			
Raising awareness Establishing collaboration Engaging experts Ensuring impact	All	The project website is being used as the main channel for disseminating the project results and advertising the project activities online. The first prototype of the website was published in M5. The website is regularly updated.	http://3dfed.com → Achieved on M5.
Social Media: X.com (former Twitter)			
Raising awareness Establishing collaboration	All	Alongside the 3DFed website, X.com was used as an online channel to promote the achievements and disseminate information about the project.	http://x.com/3DFed_EuroStars → Achieved on M5.
Social Media: Researchgate.net (discontinued)			
Establishing collaboration Engaging experts	Researchers Technical experts	A 3DFed Project profile has been created on the Research Gate page. This aims to enable cooperation and communication of all members on the project, by sharing their work with other team members and interested audiences and link and reference their work to the project.	http://www.researchgate.net/project/3DFed-EuroStars → Achieved on M5. → The service was discontinued on March 2023.

Objectives	Target Groups	Aim and achieved results	Status References
Scientific Publications			
Establishing collaboration Engaging experts Ensuring impact	Researchers Technical experts	The project team uses scientific publications to share results with researchers and technical experts, aiming to engage a broader audience, foster collaborations, and maximize impact. So far 6 papers has been published and 1 is accepted and will be published in the near future.	Links are available on "Publications" page on the website.
Blog Posts			
Raising awareness Establishing collaboration Engaging experts	All	By publishing blog posts on finalized reports and attractive achievements, the project team aims to raise more awareness and facilitate potential collaboration with potential interested experts.	Published blog posts so far: → elevait Blog on LinkedIn → OpenLink Blog
Flyers and Leaflets			
Raising awareness Establishing collaboration Engaging experts	All	Preparing and distributing flyers in relevant conferences and events, in order to to leverage face-to-face communication, fostering direct engagement with attendees to raise awareness, generate interest, and catalyze potential collaborations.	elevait prepared a flyer and distributed in some events, e.g. → AI Monday Dresden, March 2023 → KI Kongress Sachsen, September 2023 → ride2career Dresden, October 2023.
Workshops and Presentations			
Raising awareness Establishing collaboration Engaging experts	Researchers Technical experts	Occasional workshops and conference presentation of papers where 3DFed were acknowledged will supplement our dissemination plan, offering opportunities for in-depth discussions and collaboration with stakeholders.	→ October 2023, University of Belgrade, Mount Tara, Serbia, by Mirko Spasić
Plenary f2f Events			
Establishing collaboration Engaging experts Ensuring impact	3DFed Consortium	These events, exclusive to team members, served as dedicated forums for disseminating comprehensive project updates, sharing critical findings, fostering collaboration, and anticipating future challenges.	→ August 2022, Dresden, DE. → August 2023, London, UK.
Online Jour-Fixe Meetings			
Raising awareness Establishing collaboration Engaging experts Ensuring impact	3DFed Consortium	The 3DFed consortium has convened every month in online jourfixe meetings. These meetings provided a platform to share project updates, exchange information with stakeholders, and foster collaboration, contributing to the broader communication and impact of the project.	Happened every month, 30 times during the whole project.

Table 1: Comprehensive Overview of Dissemination Tactics and Achievements in 3DFed

Project Month	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
Calendar Month	**2021**									**2022**												**2023**													**2024**		
Dissemination Action	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03	04	05	06	07	08	09	10	11	12	01	02	03
Deliverable Reports				X	X									X				X			X	X		X			X			X						X
Visual Identity				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Project Website					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Social Media: X.com																	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Social Media: Researchgate.net								X	X	X	X	X	X	X	X	X	X	X	X	X	X															
Scientific Publications							X	X											X	X					X	X									X	
Blog Posts																																			X	X
Flyers and Leaflets																								X						X	X					
Workshops and Presentations																															X					
Plenary f2f Events																	X												X							
Online Jour-Fixe Meetings			X	X	X	X	X	X		X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X		X	X		X	X	X	X

Table 2: Indicative timeline for the performed activities within 3DFed Dissemination Plan

2.6 Timeline for Dissemination Activities

Table 2 offers an indicative timeline depicting the progression of activities within our Dissemination Plan across project months and corresponding calendar months. This timeline offers a clear overview of the temporal distribution of our dissemination efforts throughout the project duration. By visually representing the timing of these activities, this table enhances understanding of the strategic scheduling and execution of our dissemination plan.

3 Conclusion

In conclusion, this report provides a comprehensive overview of 3DFed project's dissemination efforts and tactics. Beginning with an Executive Summary, the report encapsulates the 3DFed project's objectives and key outcomes. Through a detailed Project Overview, readers gain insight into the scope and significance of 3DFed project, setting the stage for understanding its dissemination activities. The Project Consortium section describes the collaborative efforts of our partners, underscoring the collective commitment to disseminating project findings effectively.

Moving forward, the Comprehensive Overview of Dissemination Tactics and Achievements outlines clear objectives, emphasizing the importance of strategic dissemination to maximize impact. With a focus on Two Phases of Project Dissemination, the report recognizes the evolving nature of dissemination activities, from initial engagement to in-depth communication and collaboration. By identifying Dissemination Target Groups, we ensure that our efforts are tailored to reach the most relevant stakeholders, maximizing engagement and uptake of project outcomes. Through a diverse range of Dissemination Tactics, including face to face events, project deliverable reports, and online platforms, we employ a multi-faceted approach to reach our dissemination goals. The Dissemination Plan Summary provides a concise overview of our strategies, ensuring clarity and alignment among project stakeholders.

In conclusion, our dissemination efforts are integral to the success and impact of 3DFed project. By effectively communicating our findings to diverse audiences, we aimed to maximize the reach and relevance of our research outcomes, ultimately contributing to positive societal change and scientific advancement.