# MICRUITY

The Product Stack

The Wealth and Benefits Industry are undergoing massive changes to utilize technology as a means to power more user-centric tools and improve individuals access to education.

At the center of these changes are companies like Plaid, Addepar, and Noyo. These innovative companies focus on building data infrastructure to power their clients and partners tools. By doing so, they configure ecosystems, empower other firms to focus on their core business i.e. user interfaces, creating insurance products, powering small business, and manifest vendor choice.

> "America needs an organized, high-level effort to ensure that future generations can live out their final years with dignity."

Larry Fink (2024)

It is time for the Institutional Retirement Industry to adopt these best practices and disrupt the current monolithic structures. **We are all on this journey together.**
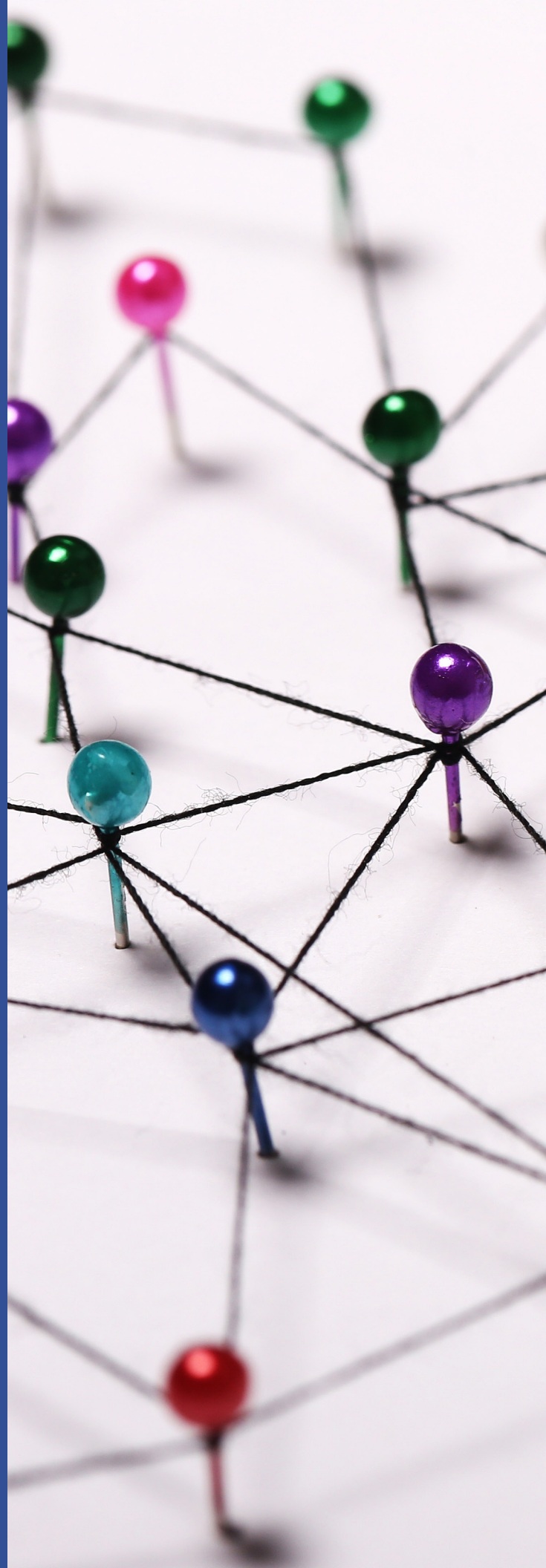
Introduction

The Retirement Income space has a once-in-a-lifetime moment - a rare alignment of opportunity, technology, and massive public need: Americans face a looming question as they approach retirement. The question is, *how do I make sure my retirement savings last?* Retirement income products are the obvious solution - they reduce exposure to market forces and support draw-down strategies, ensuring that the average saver will have access to income throughout their retirement

But taking advantage of this moment requires a shift in how we design, build, and deliver retirement income products to the market.

When we consider the Top 10 Recordkeepers by AUM, they all differ in how they support retirement income products. Some have an API layer to enable connections, while others are more open to customization due to their focus on the jumbo market. Recordkeepers will utilize managed accounts in connection with their retirement income offering, and others want to own the entire user experience.

For the product manufacturers - the life insurers, asset managers, and distributors - this presents a difficult choice. Product Manufacturers can incur the costs associated with the customization needed to operate in 10 unique environments, or limit their distribution to segments of the market that are more likely to generate positive ROI.

The result is a fragmented product marketplace, an artificial barrier to the growth of the ecosystem, and a reduction in choice for savers and retirees.

But it doesn't have to be this way. It is possible to design products with interoperable micro-services that fulfill the requirements necessary to bring a product to market. With a new approach to how we design, build, and deliver products, we can enable greater flexibility, adaptability, and durability in our retirement income solutions. Enter, The Product Stack.

A (Barely) Hypothetical Scenario

StarLife is building a group deferred fixed annuity product: Income Gemini. Participants contribute during the accumulation period and their benefit is allocated - a guaranteed benefit unique to them as an individual.

At retirement, the plan participant is faced with a choice: take all, part, or none of the guarantee. And during retirement the participant stays in the plan, with support for drawing down both guaranteed and non-guaranteed assets.

StarLife has big plans for Income Gemini: they want to get their product into plans on each of the Top 10 Recordkeepers as measured by 401(k) AUM: approximately $5.6T - or 80% - of the market.

To do this, Income Gemini needs to operate in 10 unique environments. But no two of their Recordkeeper targets operate the same way.

How can they scale this product without massive technology and maintenance spend?

A Marketplace of Silos

A successful institutional retirement income product needs to do a few different things:

1. deliver a seamless participant experience with learning tools that support decision making
2. document product rules and ensure compliance
3. track in-bound and out-bound participant transactions
4. determine retirement income value - today, and in 10 years
5. securely share sensitive data between parties

The ways in which different product manufacturers deliver on these 5 key tasks is their **Product**. Different product manufacturers will do different things, and right now, a barrier to scale is the lack of interoperability between each of the components required to operate their Product.

In short - we have a closed marketplace that will be unable to scale retirement income solutions. And the result is that the end-users - plan sponsors and participants - lack the full range of choices when it comes to retirement income solutions.

In the case of StarLife - the company can grow their technology spend or lower their expectations. In either case - the result is less choice for participants, and reduced ROI for StarLife.

> "Our partnership with Micruity provides confidence in the scability of our solution across recordkeepers by simplifying operational complexities and optimizing data-transfer needs."

Brendan Curran, State Street Global Advisors
U.S. Head of Defined Contribution

The Product Stack: A User Centric Product Solution

The previous list of 'successful institutional retirement income product needs' is non-exhaustive, but they represent the most critical aspects of a participant's journey. Meeting those five needs is important for a Product Manufacturer to scale across thousands of plans to millions of participants. How their product operates, is their **Product Stack**.

The Product Stack is made up of five components: User Interface (UI), Rules & Messaging Engine (RME), Tracking & Storage Engine (TSE), Calculation Engine (CE), and Data Sharing Engine (DSE).

Each of the five components of the Product Stack are independent and interchangeable - held together by a Data Sharing Engine.

Different parties will offer solutions or services for some or all of the necessary components in order to create a full product stack. And with the exception of the UI, none of the components is Recordkeeper dependent. The Product Stack is connected to the Recordkeeper directly or through a middleware solution.

This means that Product Manufacturers can focus on building a full product stack before they engage with their target Recordkeepers.
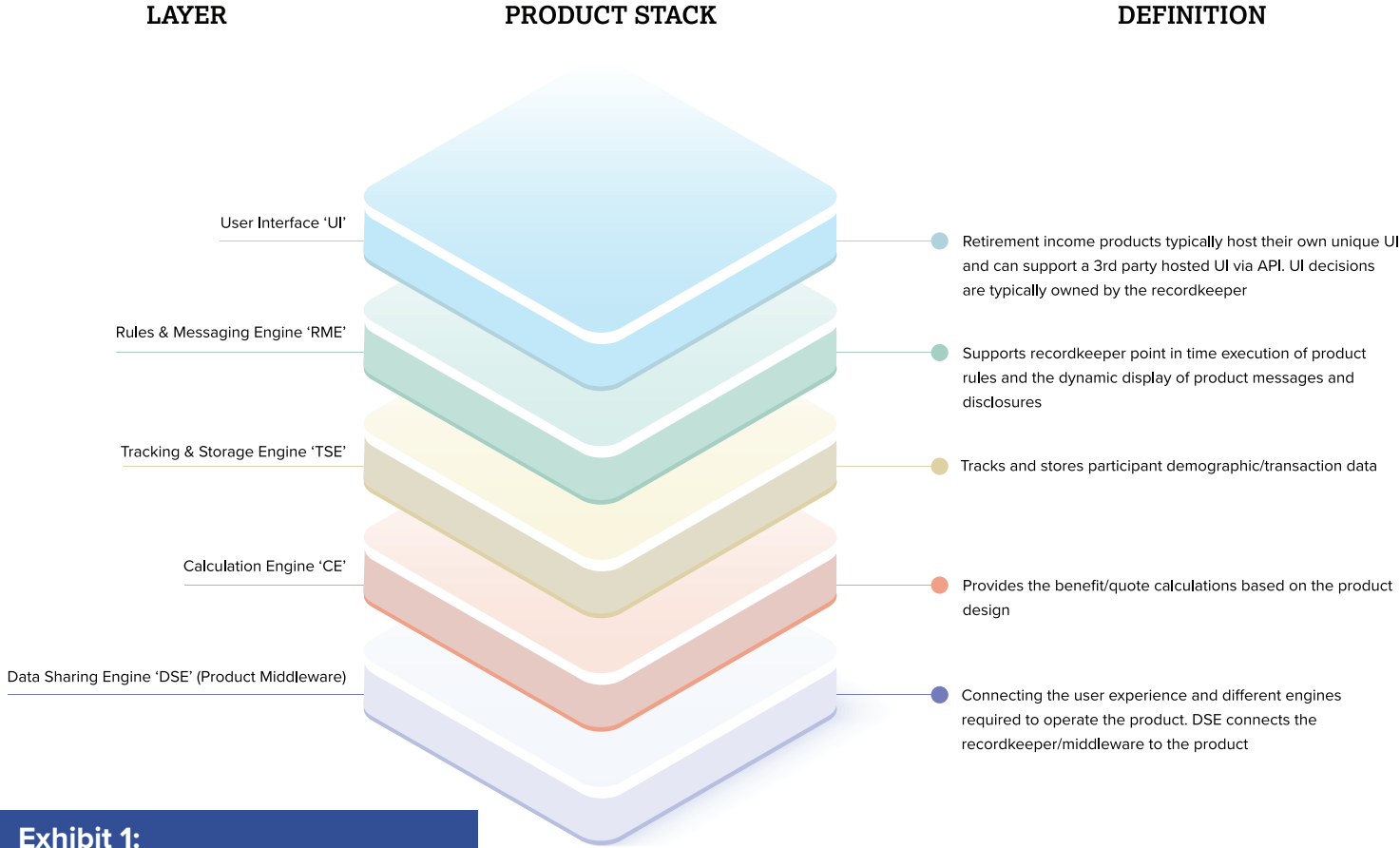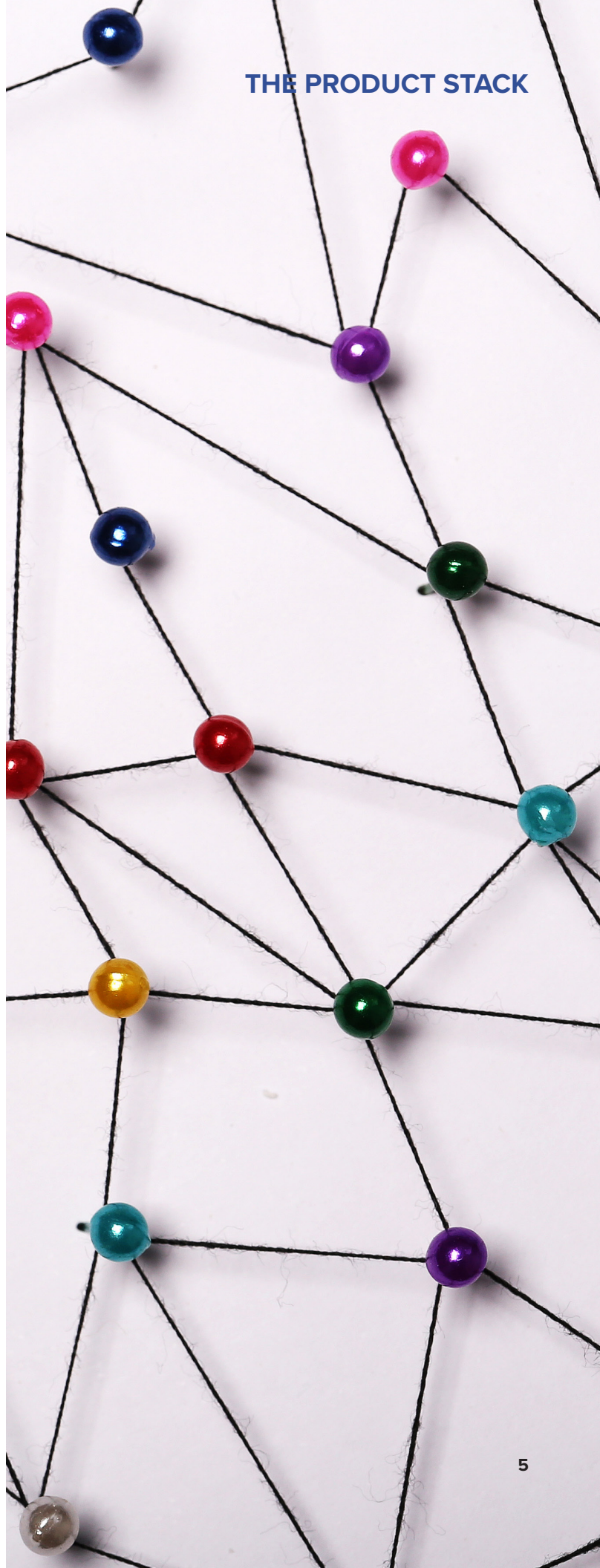
LAYER	PRODUCT STACK	DEFINITION

User Interface 'UI' — Retirement income products typically host their own unique UI and can support a 3rd party hosted UI via API. UI decisions are typically owned by the recordkeeper

Rules & Messaging Engine 'RME' — Supports recordkeeper point in time execution of product rules and the dynamic display of product messages and disclosures

Tracking & Storage Engine 'TSE' — Tracks and stores participant demographic/transaction data

Calculation Engine 'CE' — Provides the benefit/quote calculations based on the product design

Data Sharing Engine 'DSE' (Product Middleware) — Connecting the user experience and different engines required to operate the product. DSE connects the recordkeeper/middleware to the product

**Exhibit 1:
Product Stack Overview**

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And best of all, the Product Stack is responsive to evolving needs - you can change components at any time without costly and complex integration and interoperability challenges.

At Micruity we've validated the Product Stack framework. We've provided: a standalone Data Sharing Engine ('DSE'), a DSE with a Rules & Messaging Engine ('RME') and User Interface ('UI'), and we've been all five components.

Why would I want to change my Product Stack?

- needs vary, and different partners will offer some or all the components of a product stack solution

- as a product manufacturer, you may be unhappy with the Calculation Engine ('CE') vendor

- recordkeepers will expect you to have your own UI solutions, while others will have their own

- you might initially build your own Tracking & Storage Engine ('TSE') but as you scale, you choose to outsource this component

"Having projected lifetime income and TIAA Loyalty Bonus℠ readily accessible across multiple platforms as part of the TIAA Secure Income Account participant experience is a foundation of TIAA's lifetime income offering."
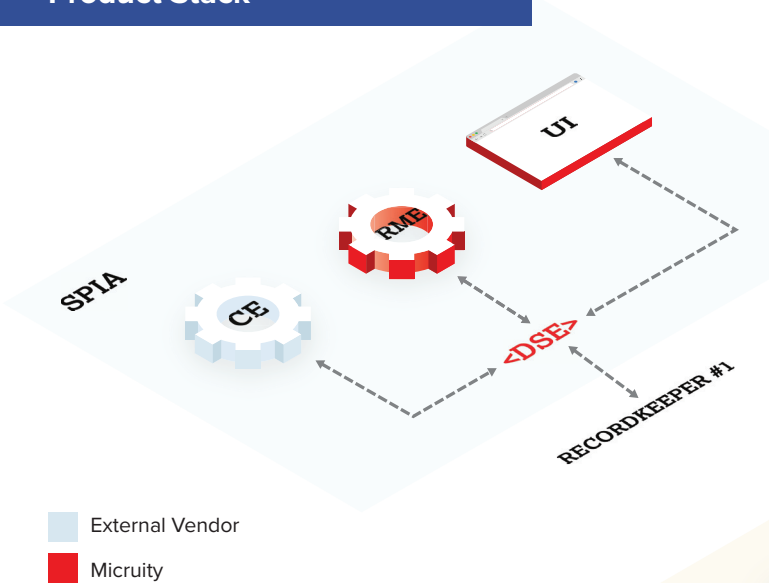
Philip T. Maffei II, TIAA
Sr. Managing Director, Head of Corporate Retirement Strategic Partnerships and Sales Enablement

How It Comes Together: The Product Stack in Action

Before StarLife built Income Gemini, they built a group SPIA. This is a simpler product because a SPIA doesn't require a TSE. StarLife's SPIA was built using Micruity as the DSE, RME, and UI, with a 3rd party vendor for their CE.

StarLife would like to leverage as much of their existing product stack as possible for Income Gemini. After wrapping up Discovery, where we blueprint the product, it was agreed that for the MVP it would be more efficient to use some of StarLife's existing technology built for their retail fixed-indexed product, including their in-house CE and TSE.

By using existing technology from their retail product, StarLife can save time and money while the viability of Income Gemini is tested.

Micruity would round out the stack with a supporting DSE, RME, and configuring an expanded UI to deliver a microsite during accumulation and a digital income election at retirement - utilizing components of the SPIA product stack.

Exhibit 2: StarLife's SPIA Product Stack

- External Vendor
- Micruity

**Exhibit 3: StarLife's SPIA and Income Gemini MVP Product Stack**

- External Vendor
- Micruity
- StarLife
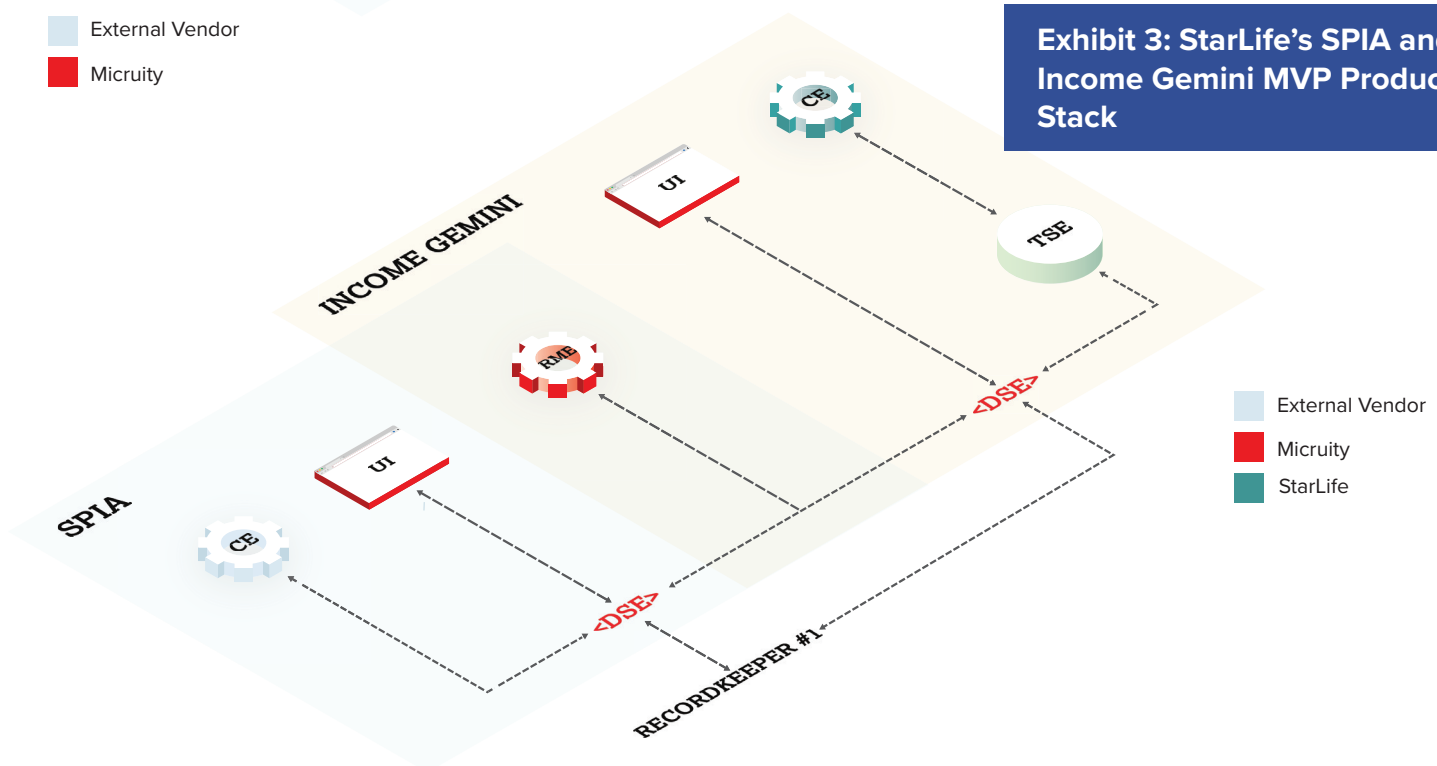
When Income Gemini initially launches with a Recordkeeper who expects the UI to be hosted by StarLife, the product stack is a great fit. But StarLife wants to work with all of the Top 10 Recordkeepers, and their next partner wants to fully host the UI themselves.

No problem - we can easily reconfigure the product stack to meet each Recordkeeper's requirements.

For the new Recordkeeper, only the UI component of the product stack needs to change. Because of the initial configuration, StarLife doesn't need to deploy any additional resources. Micruity, as the DSE, is able to use APIs connected to Micruity's UI and integrate them into the Recordkeeper's proprietary UI.

Exhibit 4: Product Stack supporting StarLife UI and Recordkeeper UI for Income Gemini

Legend:
- External Vendor
- Micruity
- StarLife
- Recordkeeper
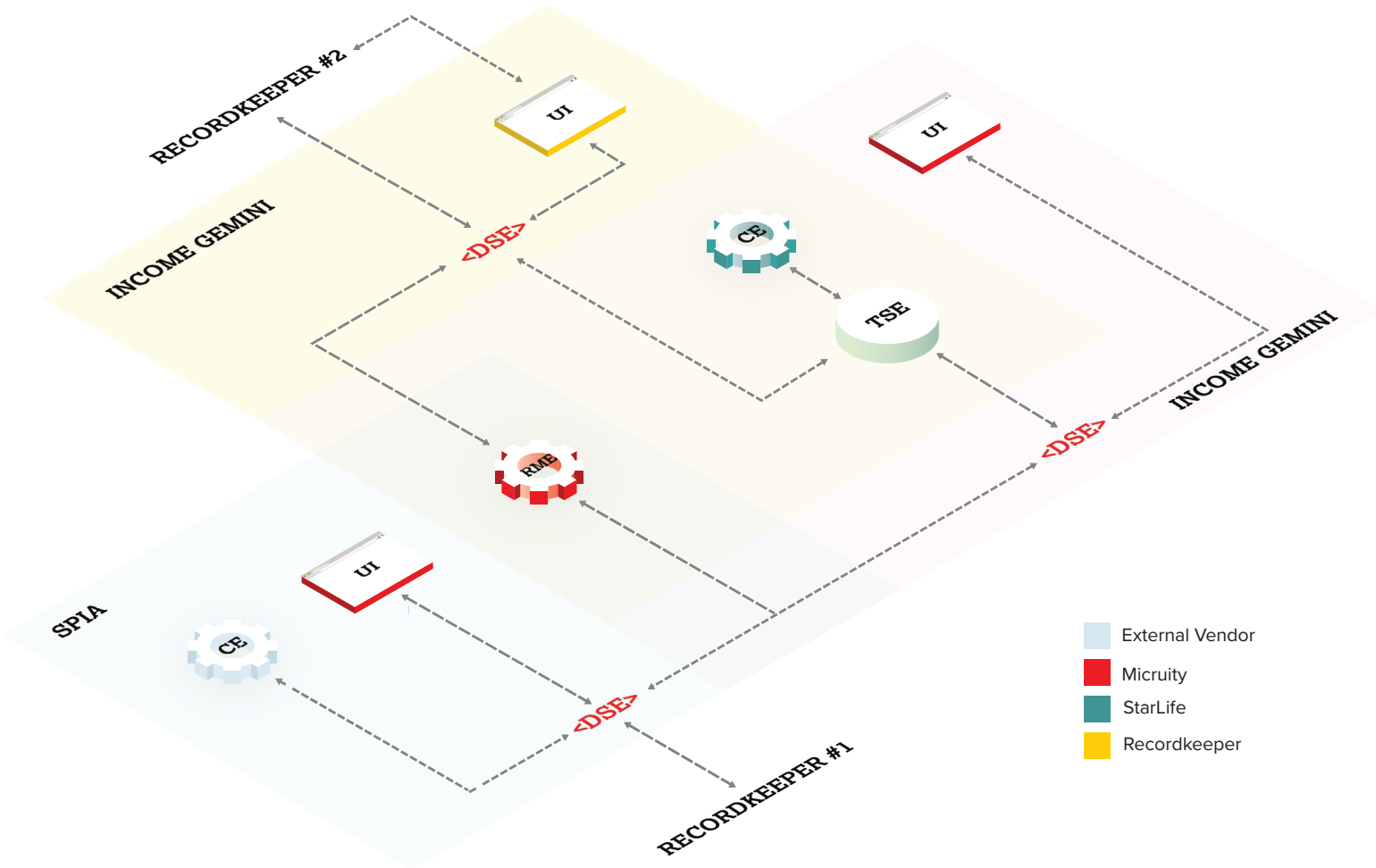
Fast Forward Two Years...

Income Gemini now has tens of thousands of participants and StarLife is looking to deliver real-time quoting via a 3rd party CE vendor. But when Micruity and StarLife start examining vendors, we discover that it will be costly to integrate a 3rd party vendor into StarLife's TSE.

No problem - we can integrate the 3rd party CE into a Micruity-hosted TSE and migrate the data from StarLife's database.

As the product evolves, the product stack is adaptable to a range of needs.
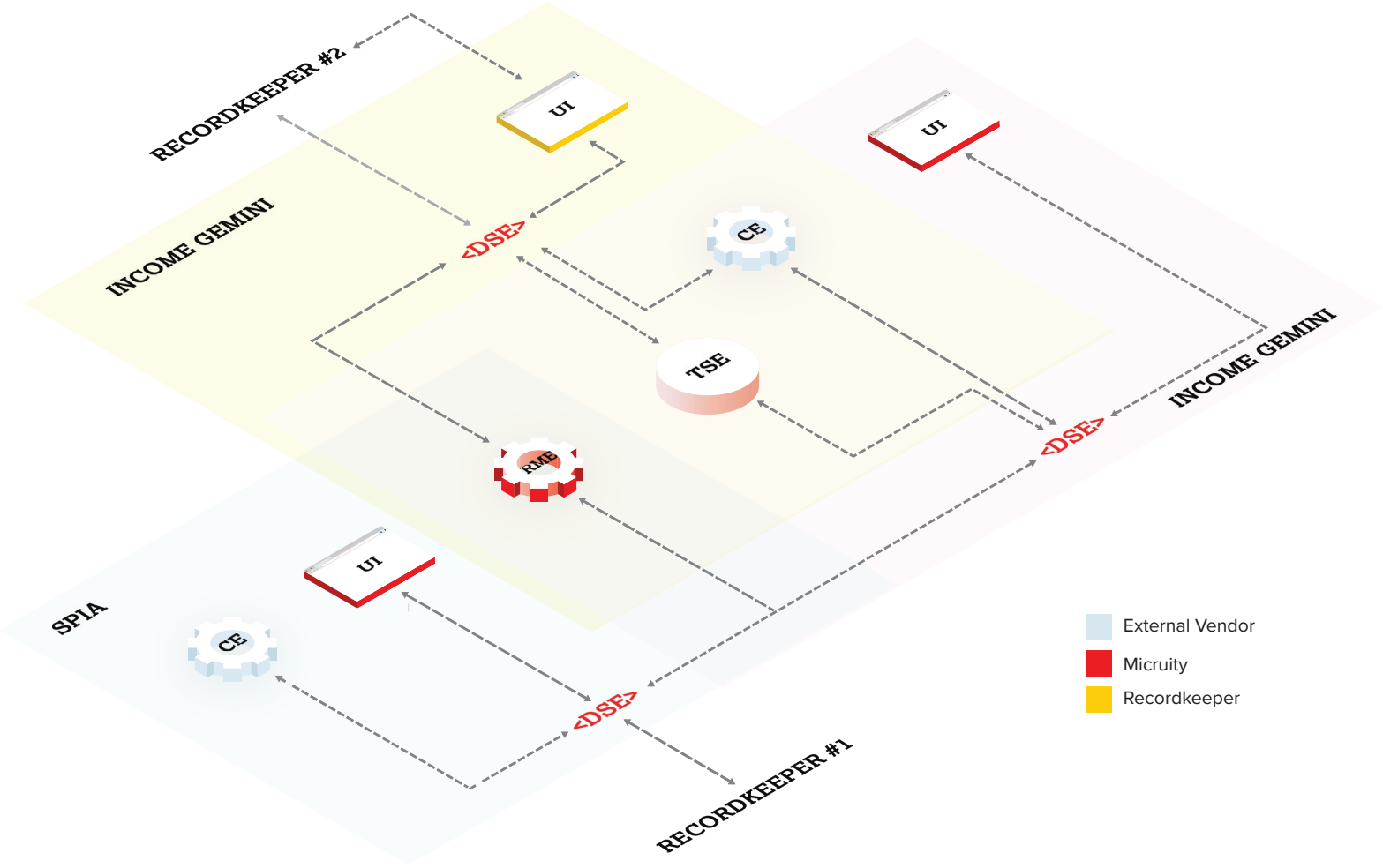

Exhibit 5: Fully outsourced Income Gemini Product Stack

Considerations

The Product Stack adapts depending on the iteration of the Product. These are some factors that need to be considered:

- building proprietary software vs. partnering with external technology vendors
- managing multiple vendor relationships
- niche institutional retirement solutions where scale is not a priority

"At ARS, we utilize proprietary software to operate the product engines, calculators, and data storage for our offerings. We connect to recordkeepers directly or through integrated third-party middleware solutions. In our case, our requirements of external middleware are to facilitate participant experience and secure low-cost data transfer without storage."

Abby Canfield, Annexus Retirement Solutions
Chief Operating Officer

Exhibit 6: Product Stack Benefits

LOW COST

Use what you already have and reduce your initial CapEx while keeping vendors price-competitive by not tying your success to any single vendor

MINIMIZE VENDOR RISK

Work with the best in the industry by selecting the best vendor for each component rather than expecting one vendor to be the best at everything

FLEXIBILITY, ADAPTABILITY, DURABILITY

A modern Product Stack helps to avoid long, complex, and costly integration cycles where the performance of your product is only as good as your weakest component

Conclusion

The Product Stack is an adaptable framework utilizing different service components for each of the tasks necessary to operate an income product.

Because each component of the stack is independent and interchangeable, product manufacturers can navigate the connectivity preferences of their target Recordkeepers and adapt their products as they scale vertically across platforms, with minimal resources, while taking advantage of changing conditions and technological advancements.

The Institutional Retirement space is modernizing - and looking more like the wealth management space. To scale our products and meet the needs of plan sponsors and participants, we need to adopt best in class technology practices that optimize vendor interoperability.

It's time to move beyond middleware and build a scalable, interoperable framework that can grow the entire industry.

Micruity is a Retirement Product Infrastructure Company building product stack solutions for the entire retirement income marketplace.

As the old proverb goes - if you want to go fast, go alone; if you want to go far, go together.

About Micruity

Our Goal

People deserve a secure and reliable retirement income. As the industry continues to create exciting lifetime income products that will give Savers the confidence they need to retire comfortably, Micruity represents the collective consciousness of these stakeholders by providing a seamless, secure, and reliable operating infrastructure.

About Us

Today, workers depend on their employers for health benefits, insurance, and savings tools. And, as employers take on a bigger role in people's financial wellness, retiree financial support is a big part of the picture.

Lifetime income and retiree financial wellness go hand-in-hand. And to create accessible retirement income security, you need the expertise of the entire defined contribution ecosystem. And, they all need to communicate with each other.

Leveraging the Micruity team's expertise in plan design, retirement income product development, and FinTech technology, we have developed data rails to provide seamless and secure connections to enable stakeholders to share the information required to power the pensionization of the defined contribution plan.

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