

## Impact of Blockchain in Benefits Administration

November 6<sup>th</sup> marked the 40<sup>th</sup> anniversary of the 401(k) plan. The employer sponsored retirement plan is now the primary retirement savings vehicle for many American workers.

Ever since its inception in 1978, the 401(k) plan and the retirements industry have undergone several transformations as it relates to investing of the Plan Assets as well as on the administration side. Benefits Administration, as it is popularly known, is the recordkeeping of individual accounts of employees who participate in an Employer sponsored plan.

This paper evaluates the impact of technology and specifically the latest breakthroughs in Blockchain and Distributed Ledger Technologies (DLT) as it relates to Benefits Administration.

### What is Benefits Administration:

Very simply, it's the accounting for the monies that the individual employee (known as a 'Participant') invests into his / her plan. Benefits can be of different types:

- Wealth Benefits (Retirement Plans like 401(k), Pensions (Defined Benefit plans) and Employee Stock Ownership Plans (ESOPs)
- Health & Welfare plans including Medical, Dental, Vision and any Cafeteria plans (such as FSAs) and HSAs

For purpose of this paper we will focus on the **Wealth side of Benefits**, with the Health and Welfare plans a subject for another day.

### Entities in Benefits Administration:

Before we try to understand Benefits administration, it's important to understand the entities involved in the administration of Retirement benefits. The schematic below provides a layman's view of how the recordkeeping industry is structured and the data flows that are executed between each:

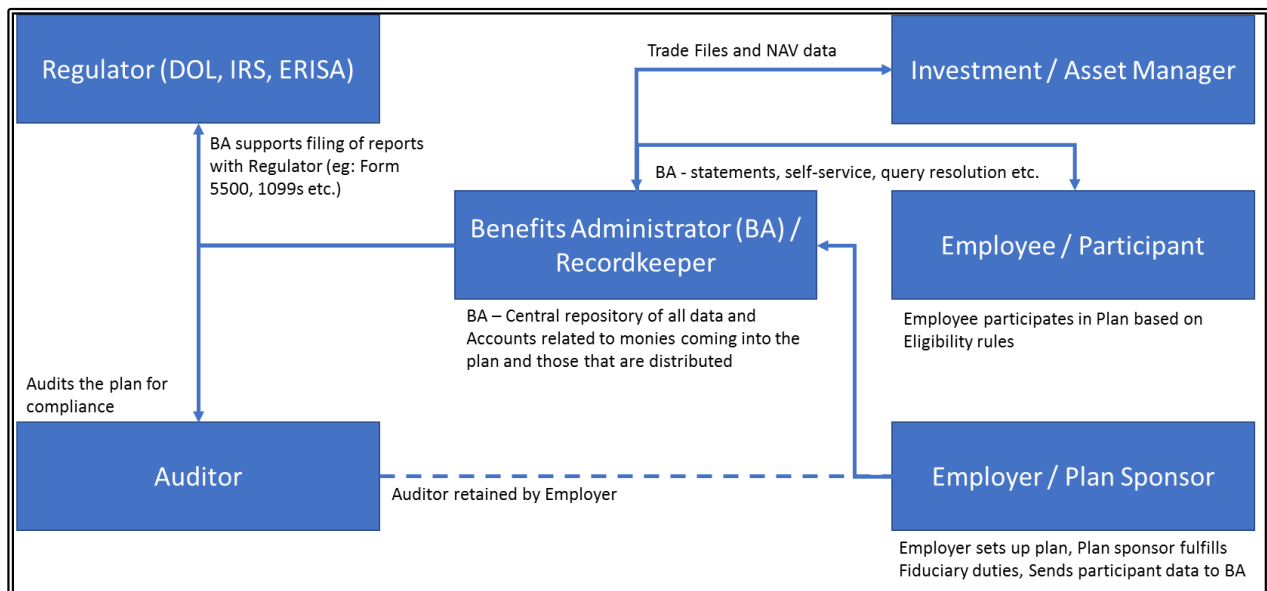


Fig: 1: Entities in the Benefits Administration value chain

In the schematic above, the following entities play differing roles as below:

1. **Benefits Administrator (BA):** Also, known as the recordkeeper, the primary role of the BA is that of Accounting. For a fee, the BA keeps books for:
  - a. The money received into the plan (through Contributions in the plan or through Roll-overs in)
  - b. The money distributed from the plan (through Hardship withdrawals, Loans or Roll-overs out)
  - c. Provides a platform for the Employer and Employee to interact with the plan for making any changes; Eg: Investment elections, participant demographic changes, tracking Eligibility and Enrollment into the plan
  - d. Provides Auditors of the plan with supporting documentation evidencing that the changes in the plan have been done in accordance with the regulation (ERISA, IRC etc.)
  - e. Provides the Plan Sponsor with regulatory reports that need to be filed with the regulators on a quarterly or annual basis; Eg: Form 5500, Plan Compliance Testing etc.
2. **Employer / Plan Sponsor:**
  - a. Sets up the Plan and becomes the Plan sponsor allowing employees to participate in the plan (A Plan is a separate legal entity distinct from the Employer and funds are segregated from Employer funds)
  - b. Provides demographic and payroll data of employees participating in the plan on a regular basis to the BA
3. **Employee / Participant:**
  - a. Participates in the Plan and makes transactions – Contributions, Investment Elections, Withdrawals, Beneficiary changes etc.
4. **Auditor:**
  - a. Audits the plan on behalf of the Plan Sponsor to ensure Plan compliance in accordance with Plan Qualification requirements of ERISA (Employee Retirement Income Security Act of 1974)
  - b. In most cases also prepares and files the regulatory reports required to be filed with IRS on behalf of the Plan Sponsor – Eg: Form 5500.
5. **Regulator:**
  - a. Mostly driven by the IRS (Internal Revenue Service) and the DOL (Department of Labor) – the Regulator ensures that the interests of the participants are not violated and the plan is in compliance with Qualification requirements for availing tax benefits under the code (Tax benefits of Qualified plans are a separate topic and not covered in this paper)

### **Why Blockchain?**

A Blockchain (or a Distributed Ledger as is currently interchangeably used) is platform for managing and maintaining an immutable record of transactions that are linked using Cryptography. By design a Blockchain is resistant to modification of data and is typically managed by a peer-to-peer network allowing for a decentralized system that is secure, distributed and has high fault tolerance.

Given the intense interest in this breakthrough technology the concepts of a Distributed Ledger have immense implications in the Benefits Administration industry which in its infancy is only now being

evaluated for real world applications. While not delving into the technical aspects of the Distributed Ledger (an immutable Database for storing records and transactional data), let's evaluate some of the use cases that make Blockchain relevant to the Benefits Administration industry:

#### **Decentralized store of data and records:**

Very simply, a Distributed Ledger is a **'Recordkeeping platform' by design**. There are many recordkeeping platforms that were created in the heady days of the popularity of the 401(k) plan and not much investment has gone into making radical changes to the core platform.

Recordkeepers with Proprietary systems (as opposed to the Recordkeeping system providers) have mostly focused on transformations that impact the - Assets side of the business, Customer experience or in integrating multiple functions that were not feasible when the platforms were initially implemented. As an example: most platforms still rely on pulling data into a Data Warehouse to accomplish Plan Year end activities like Regulatory filings, Compliance Testing etc.

On the flip side recordkeeping system providers, have focused on bundling different products and accelerators to provide a one stop shop for administration, Web self-service and compliance testing (think SunGard Omni and Relius Government Forms)

With consolidations of big names happening in the industry (eg: Alight Solutions – the business that Aon Hewitt sold to Blackstone Group, ACS Xerox divestiture to Conduent, SunGard to FIS), this space is ripe for transformation at its core and the business model that Blockchain enables will reap rich dividends

A **Permissioned blockchain** with BA at the core (See Fig: 1: Entities in the Benefits Administration value chain) provides the benefits of a distributed system, while also retaining some of the core functionalities that a BA needs to execute (allowing a governance model based on trust between different entities).

The Permissioned blockchain (Eg: [Hyperledger Fabric](#)) with a modular and configurable architecture enabled through Smart Contracts (or self-executing business logic code) is an ideal solution for the many woes that BAs face today.

Some specific use cases that are most relevant to the Benefits Administration industry today:

#### **Seamless Audit of plans:**

Currently, the BA provides the data required by the auditors on request and under guidance from the Plan Sponsor. Under a permissioned blockchain system, the Auditor can be provided access to a Plan (or set of Plans) or only to relevant records required for completing the audit. This has the advantage of cutting off the middleman and maintaining privacy and confidentiality. In the long run and with Regulations catching up, the need for Plan audits may be eliminated (will still need some maturity in the Blockchain technology)

#### **Efficient Plan Year End Summary packages:**

Most large plans currently require that the data needed for accomplishing Compliance Testing be pulled out into a data warehouse and manipulated separately before any testing or year-end activity can be accomplished. This also inserts the additional step of reconciliation to ensure that the integrity of data is not compromised. A single immutable ledger with business logic implemented through Smart Contracts

could continually provide the BA with visibility to any Plan provisions that are out of sync from a Non-discrimination or Top Heavy rules perspective; sort of like the interim testing service provided by many BAs today.

#### **Novel way of executing file based transactions:**

Files that are exchanged between entities that are inbound or outbound are basically aggregation of the recordkeepers data or files received in order to account for the monies coming in (eg: Contributions file processing). In a blockchain environment, the entities could simply send the transaction data to a Smart Contract which could evaluate:

- Validity of the transactions: For e.g. validity of Contribution, Limits, etc. when the Contributions are received from the Employer
- Order the transactions: For e.g. evaluate contributions are received and sufficient funds available before making investment related trade files
- Execute transactions: For e.g. trigger trades or trade files to the Asset Manager and receive and update any unit value data (possible use of Oracles)

Currently, most of these activities are done by a human with the support of a recordkeeping platform.

#### **Processing Rule based transactions**

Certain rule based transactions can be efficiently handled by automating them through a trigger set up in a Smart Contract. For instance, when a participant reaches age 70 ½ a Required Minimum Distribution is made from the plan. This activity can be set to validate, on the participants reaching their 70 ½ anniversary, depending on their plan balances.

#### **Asset security**

The assets in the plan belong to the participants and held in trust by the plan (through a nominated trustee), inherently creating a one-way mechanism for Plan assets such that the Employer doesn't have access to funds in the plan. Once vested, these assets can only be withdrawn (without a penalty) by the participants upon achieving certain life events (like retirement, hardship etc.). Including, plan assets into a Smart Contract for each participant has the capability to '**digitally lock**' the asset until pre-set requirement or conditions are not met.

While the uses for Blockchain are still nascent and many use cases are being evaluated as the technology matures, the Distributed Ledger Technology definitely has a big role to play in a data intensive industry like the recordkeeping industry. Many other use cases will only start evolving as the technology matures and the early adopters stand to gain immensely as the BA industry consolidates.

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