

How the Future of Data Standardization Will Impact the State of Maryland

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Maryland Governor's Grants Conference – November 18th, 2022

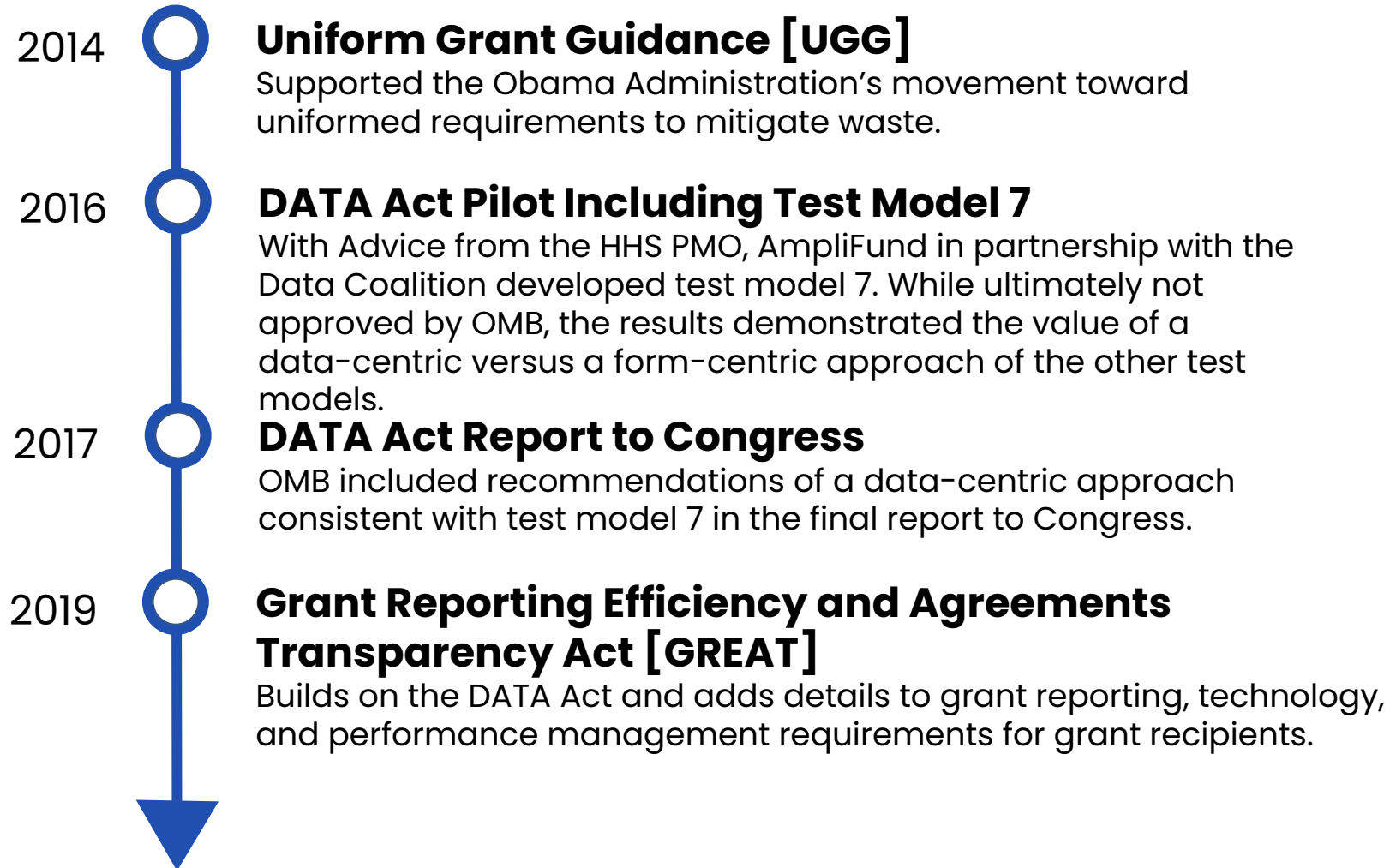
Agenda

- Overview of Data Standardization Legislation
- GREAT Act Overview
- Data Standards Status and Components
- Data Standards in Action
- Next Steps and Recommendations


Overview of Data Standardization Legislation



Overview of Data Standardization Legislation



Overview of Data Standardization Legislation

- 
- 2020 **CARES Act**
Short-term emergency funding demanding consistency with UGG, but changing requirements cause challenges for recipients.
 - 2020 **Uniform Grant Guidance II [UGG II]**
Adds key components of the GREAT Act with a specific focus on performance standards and identifiers.
 - 2021 **American Rescue Plan Act [ARPA]**
Modeled after ARRA, ARPA creates a more structured rollout and longer-term plan for recovery with performance goals that are critical to measuring success.

GREAT Act Overview

Goals:

- Reduce costs
- Improve efficiency
- Enhance management
- Encourage new technologies

Key Provisions:

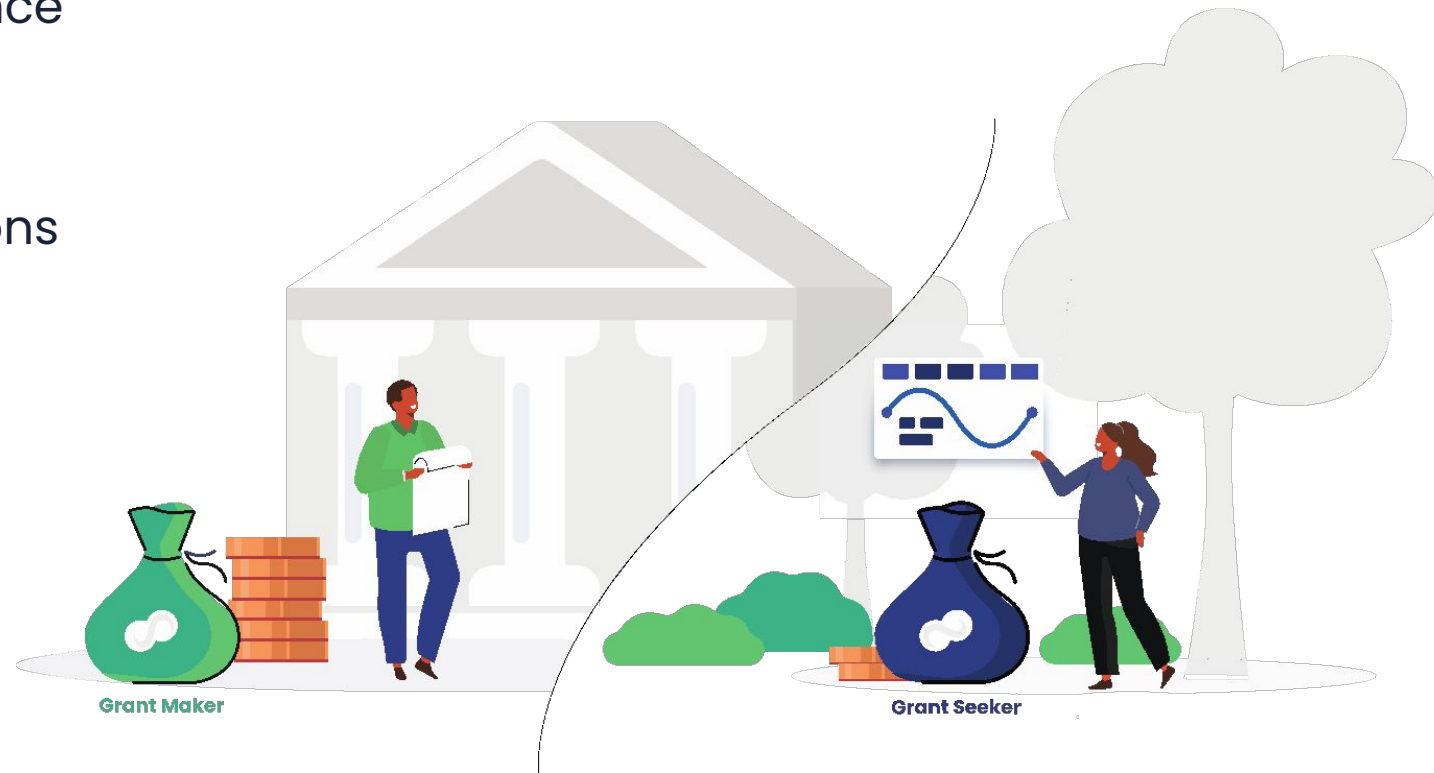
- Enhance data quality with the adoption of data standards
- Improve accessibility to grant audits
- Establishes infrastructure to publish reports as open data
- Promotes application of new technology
- Mandates rapid implementation

Moving the GREAT Act Forward

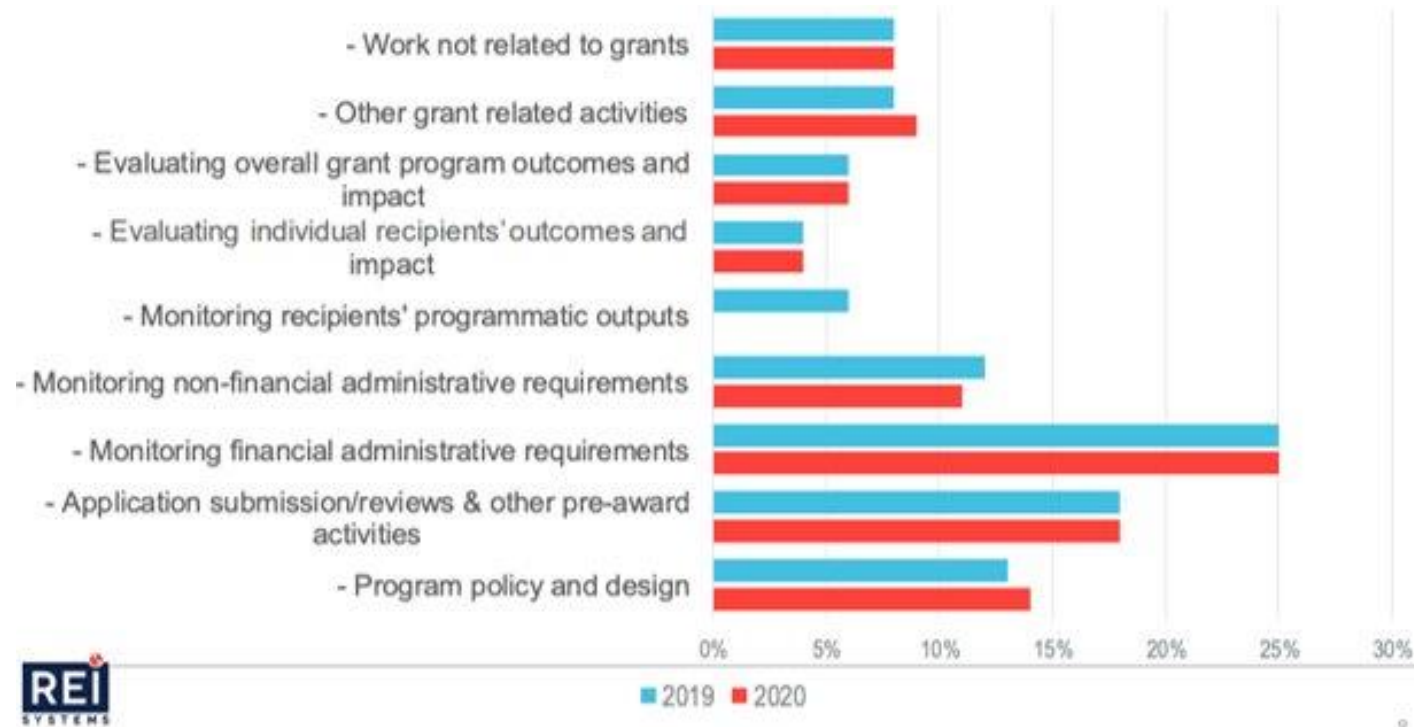
- Start working across the federal government with OMB to institutionalize data standards.
 - Mandate machine-readable data reporting for grants in UGG
 - This data can be used to complete Machine Readable SEFA and Audit Reports
 - Explore the FIBF as a possible key component of the data standards
- Require federal agencies to move away from form-centric reporting and allow recipients to report in standard data sets that can be used to create federal forms as needed.

GREAT Act Impact on Recipients

- The GREAT Act's increased performance tracking requirements:
 - Federal awarding agencies **must** develop a strong program design before soliciting applications including:
 - Program goals
 - Program objectives
 - Program indicators
 - Federal awarding agencies **must** measure recipient performance linked to program plans.
 - Performance information **must** be made available to recipients.



Survey Says: Increased Challenges



Top Reported Challenges

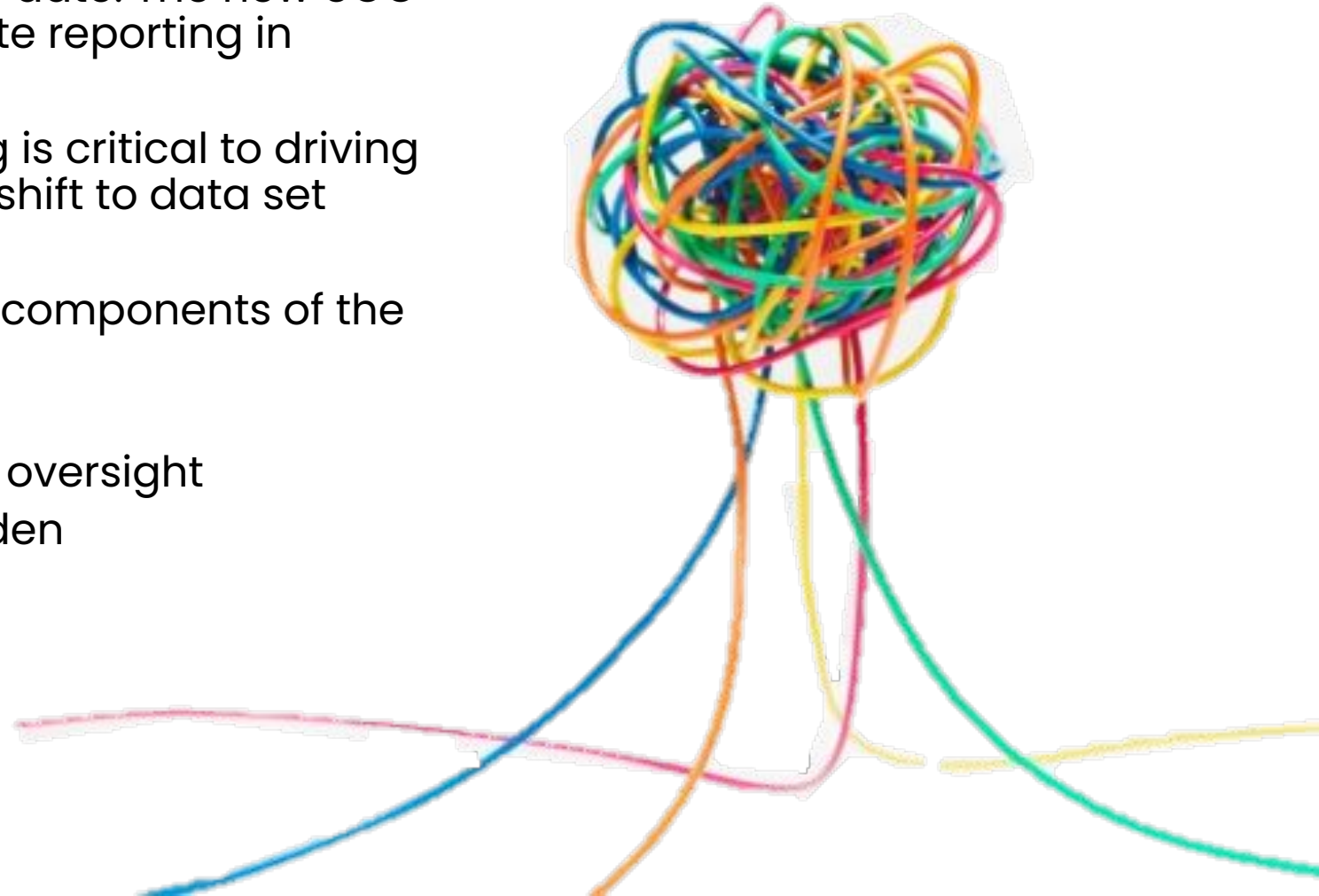
- Monitoring financial administrative requirements
- Pre-award grant making activities
- Program policy and design
- Monitoring non-financial administrative requirements

Survey Says: Lack of Transparency Over Grant Impact



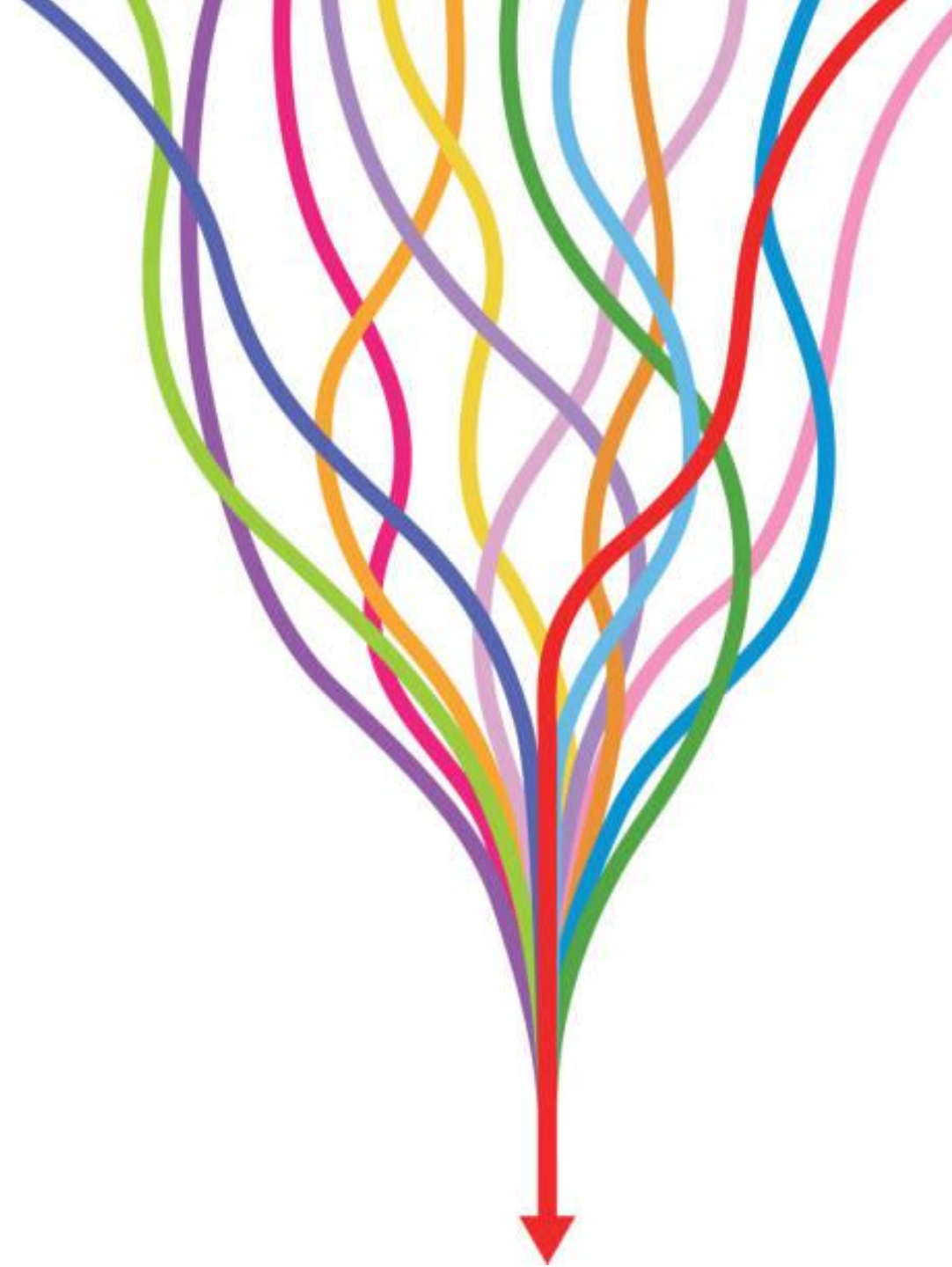
Status of Data Standards

- Data Standards are used but not implemented to the scope required by the GREAT Act to date. The new UGG recommends but does not mandate reporting in machine readable formats.
- Machine readable format reporting is critical to driving data standards as it allows for the shift to data set reporting.
- Data standards will ensure the key components of the GREAT Act:
 - Modernize grant reporting
 - Drive transparency and federal oversight
 - Reduce recipient reporting burden



What we need to see to realize the GREAT Act

- Eliminate the need to be form-centric.
 - The same data elements can be used across multiple report forms to reduce recipient effort.
- Standard financial **and** programmatic data collection will allow for referenceable data reporting to drive increased oversight.
- **The data set needs to be mandated.**



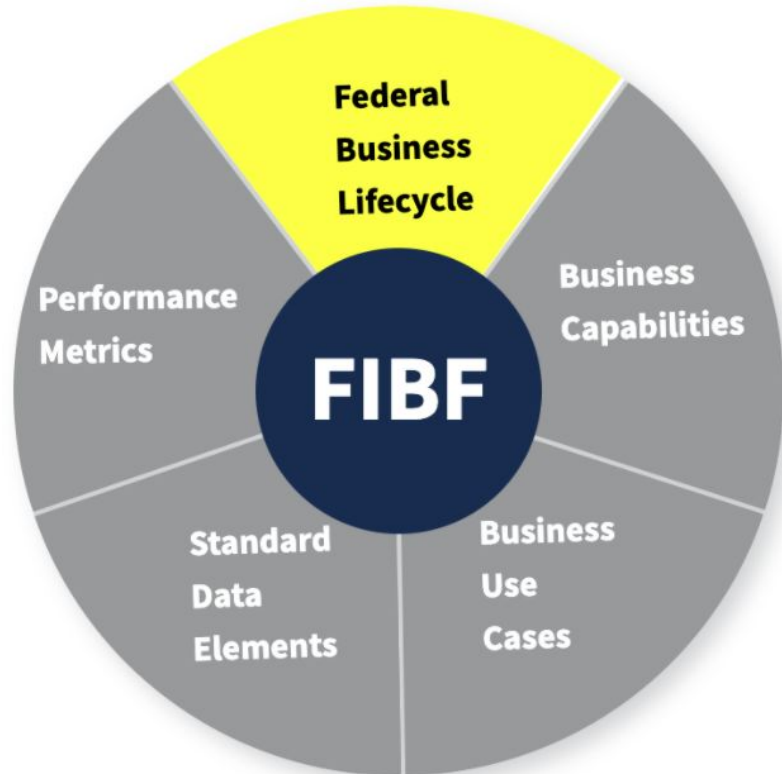
Standardized Data Set Example – FIBF Overview

Business standards, established and agreed to by agencies, using the Federal Integrated Business Framework (FIBF) enable the government to better coordinate on the decision-making needed to determine what can be adopted and commonly shared.

They are an **essential first step** towards agreement on outcomes, data, and cross-functional end to end processes that will drive economies of scale and leverage the government's buying power.

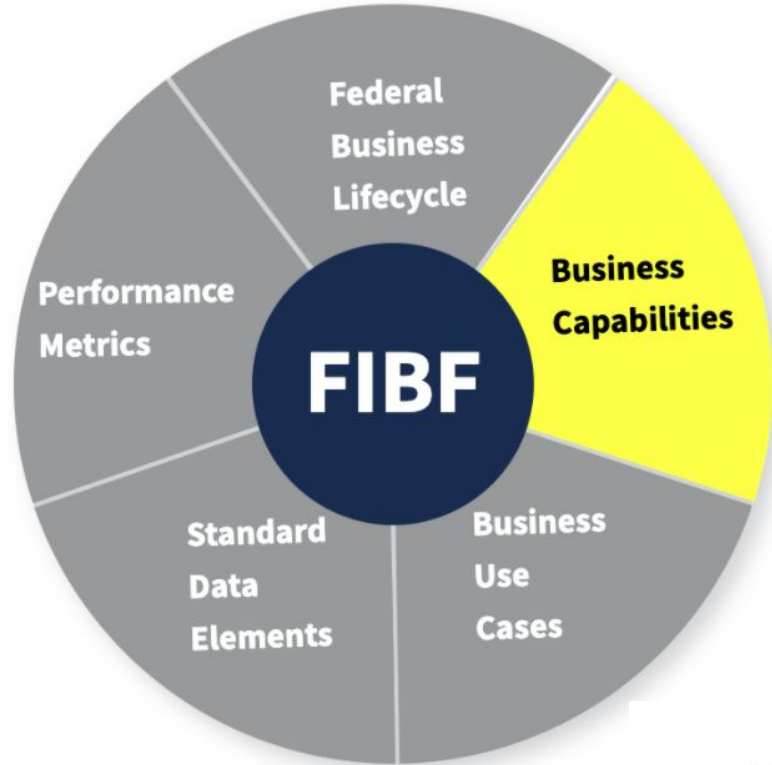


FIBF – Federal Business Lifecycle



- Functional areas, functions, and activities serve as the basis for a common understanding of what services agencies need and solutions should offer.
- **Functions:** Breakdown of a functional area into categories of services provided to customers.
- **Activities:** Within a function, processes that provide identifiable outputs/outcomes to customers are defined as activities.

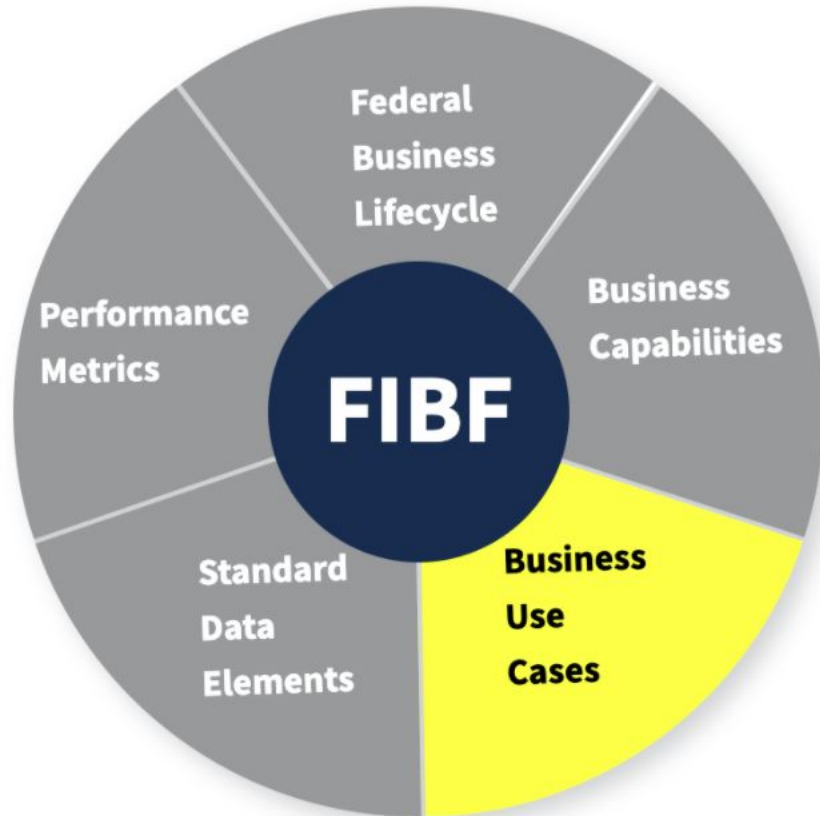
FIBF – Business Capabilities



- Outcome-based business needs mapped to Federal government authoritative references, forms, and data standards.

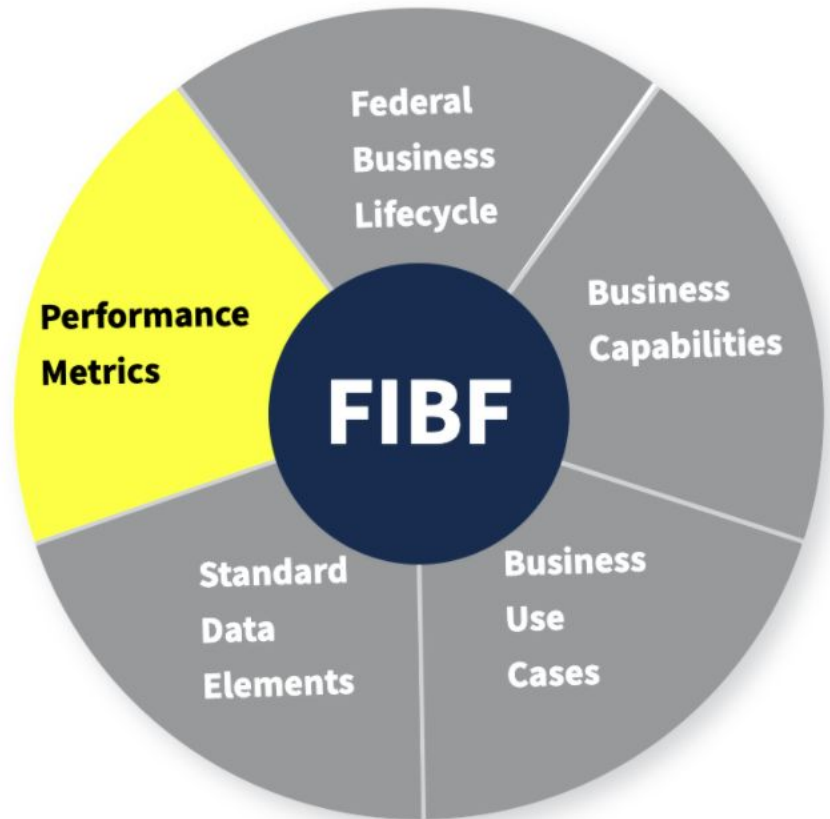
Capability ID ▲	Function ◆	Activity Name ◆	(I) input/(P) process/(O) output ◆	Business Capability Statement ◆	Authoritative Reference ◆
GRM.010.010.011	GRM.010 Grant Program Administration	GRM.010.010 Grant Program Set-up and Maintenance	I	Capture Federal authorizing legislation for grant program consistent with PL 95-224	Public Law 95-224 Federal Grant and Cooperative Agreement Act

FIBF – Business Use Cases



- A set of agency “stories” that document the key activities, inputs, outputs, and other LOB intersections to describe how the Federal government operates.
- [8.1.1 - Discretionary Grants with Cost Share Requirement](#)
- [8.1.2 - Non-Discretionary Grants to State/Local with Sub-Awards](#)
- [8.1.3 - Disaster Grants Using Interagency Agreement](#)
- [8.1.4 - Cooperative Agreements with Institutions of Higher Learning](#)
- [8.1.5 - Research and Development Grants](#)
- [8.1.6 - Grants to Sovereign Entities](#)
- [8.1.7 - Annual Program Review](#)
- [8.1.8 - Grant Recipient with Corrective Action Issues](#)
- [8.1.9 - Cross-Cutting Findings Affecting Multiple Agencies](#)
- [8.1.10 - Grant Applicant Risk Identified from Single Audit Findings](#)
- [Non-Competitive Grant with Overpayment](#)

FIBF – Performance Metrics

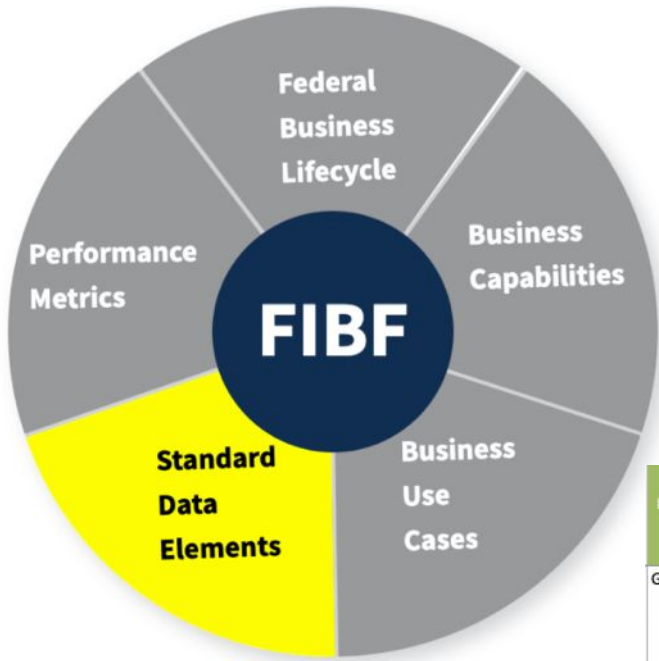


- Define how the government measures successful delivery of outcomes based on timeliness, efficiency, and accuracy targets.
- Business standards under development.

FIBF – Standard Data Elements

- Identify the minimum data fields required to support the inputs and outputs noted in the use cases and capabilities.

** FIBF data fields will need further definition*



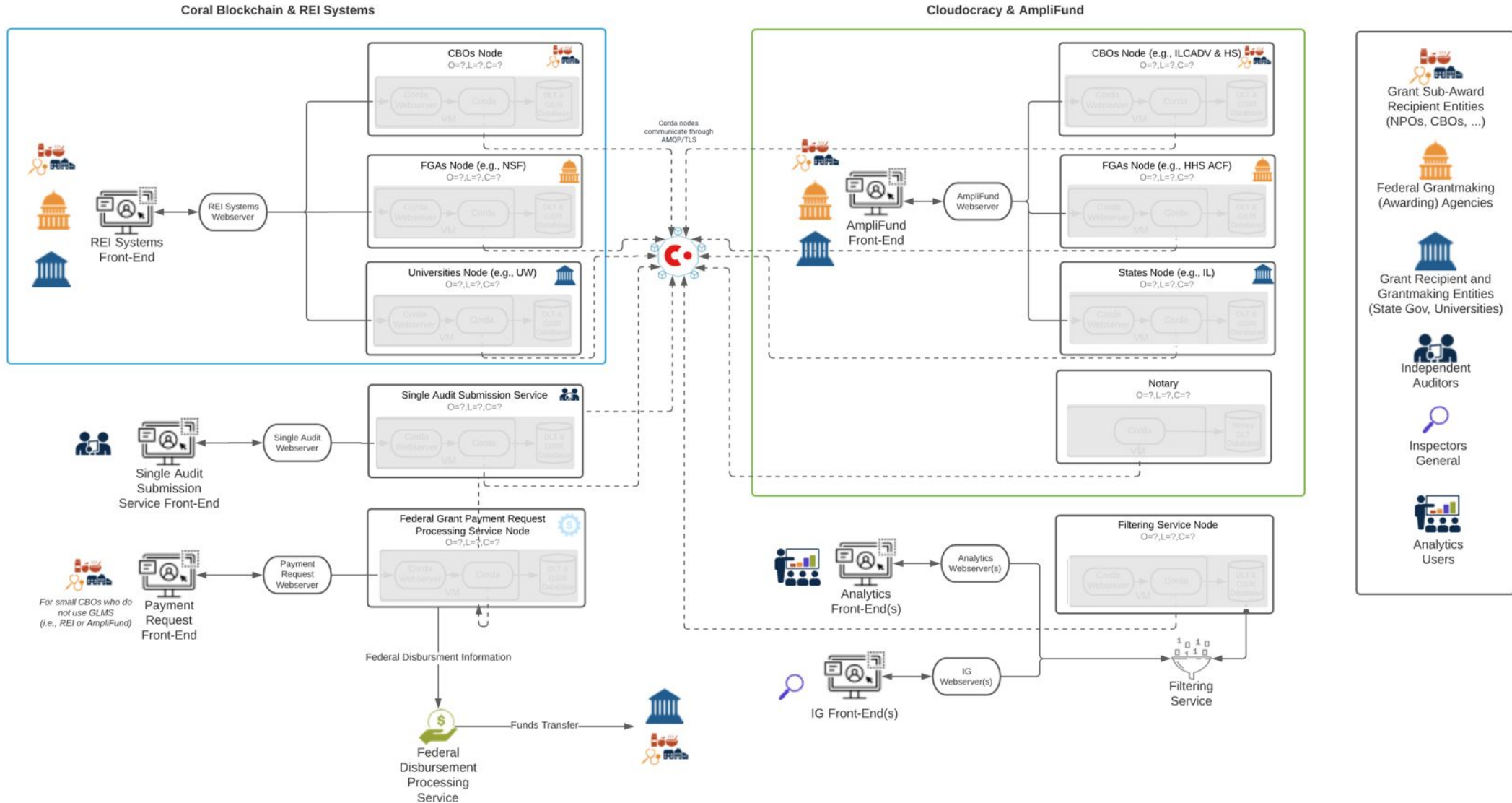
Functional Area	Functional Area Steward	Data Element Name	Data Element Definition	Example Value	Service Activity Reference(s)	Business Capability Reference(s)	Authoritative and Other Sources
GRM	HCM	Agency Type Code	A text code denoting the role of the Federal agency in the Grants management process (e.g., Federal awarding agency, oversight agency, funding agency).		GRM.010.010 Grant Program Set-up and Maintenance; GRM.010.020 Grant Program Funding Opportunity; GRM.020.010 Grant Application Support and Receipt;	GRM.010.010.011; GRM.010.010.013; GRM.010.010.032; GRM.010.010.042; GRM.010.010.052; GRM.010.010.062; GRM.010.010.072; GRM.010.010.082; GRM.010.010.092; GRM.010.010.101; GRM.010.010.102; GRM.010.010.104;	(2) 2 CFR 170.100; (3) 2 CFR 170.110; (4) 2 CFR 170.115; (15) 2 CFR 200.1; (19) 2 CFR 200.203; (20) 2 CFR 200.204;
GRM	HCM	Agency Address Line 1 Text	A first line of the street address of the Agency's legal business address.		GRM.010.010 Grant Program Set-up and Maintenance; GRM.010.020 Grant Program Funding Opportunity; GRM.020.010 Grant Application Support and Receipt; GRM.020.020 Grant Application Review and	GRM.010.010.011; GRM.010.010.013; GRM.010.010.032; GRM.010.010.042; GRM.010.010.052; GRM.010.010.062; GRM.010.010.072; GRM.010.010.082; GRM.010.010.092; GRM.010.010.101; GRM.010.010.102; GRM.010.010.104; GRM.010.010.112; GRM.010.010.121;	(2) 2 CFR 170.100; (3) 2 CFR 170.110; (4) 2 CFR 170.115; (15) 2 CFR 200.1; (19) 2 CFR 200.203; (20) 2 CFR 200.204; (21) 2 CFR 200.205;
GRM	HCM	Agency Address Line 2 Text	A second line of the street address of the Agency's legal business address.		GRM.010.010 Grant Program Set-up and Maintenance; GRM.010.020 Grant Program Funding Opportunity; GRM.020.010 Grant Application Support and Receipt; GRM.020.020 Grant Application Review and	GRM.010.010.011; GRM.010.010.013; GRM.010.010.032; GRM.010.010.042; GRM.010.010.052; GRM.010.010.062; GRM.010.010.072; GRM.010.010.082; GRM.010.010.092; GRM.010.010.101; GRM.010.010.102; GRM.010.010.104; GRM.010.010.112; GRM.010.010.121;	(2) 2 CFR 170.100; (3) 2 CFR 170.110; (4) 2 CFR 170.115; (15) 2 CFR 200.1; (19) 2 CFR 200.203; (20) 2 CFR 200.204; (21) 2 CFR 200.205;

Data Standards in Action – MITRE Blockchain Proof of Concept

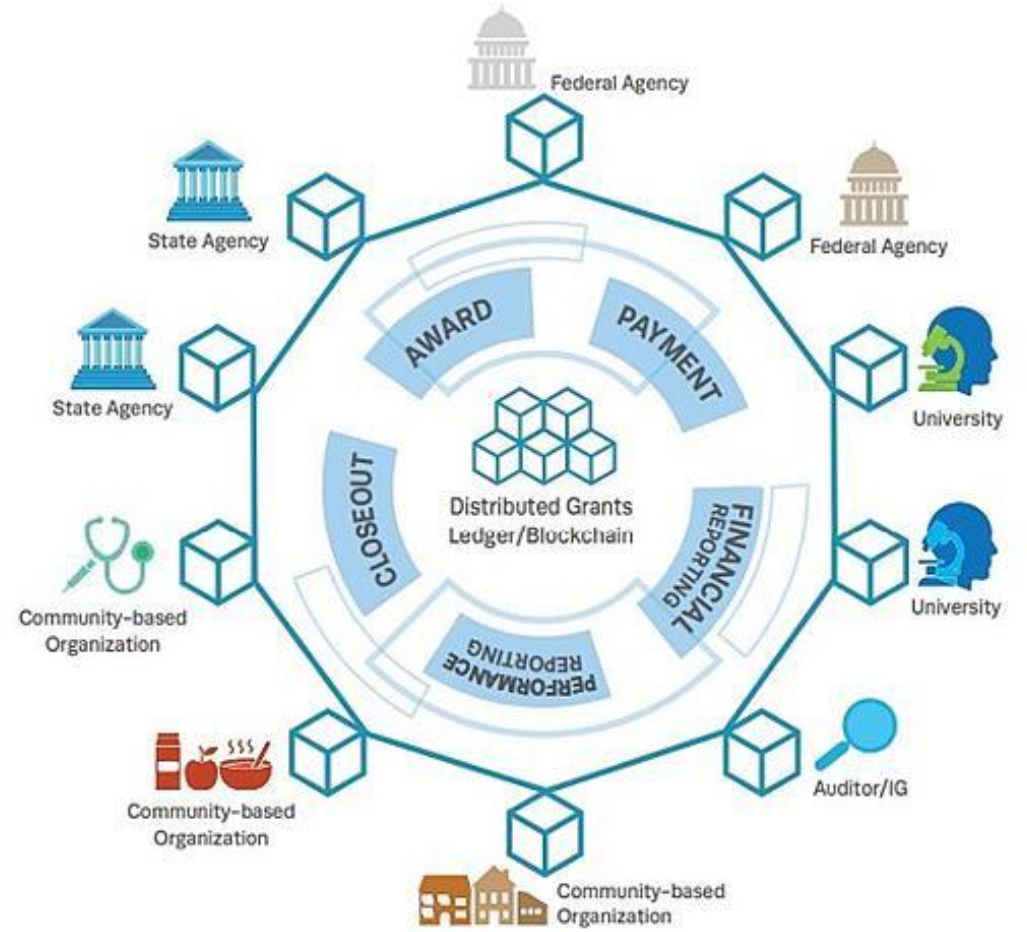
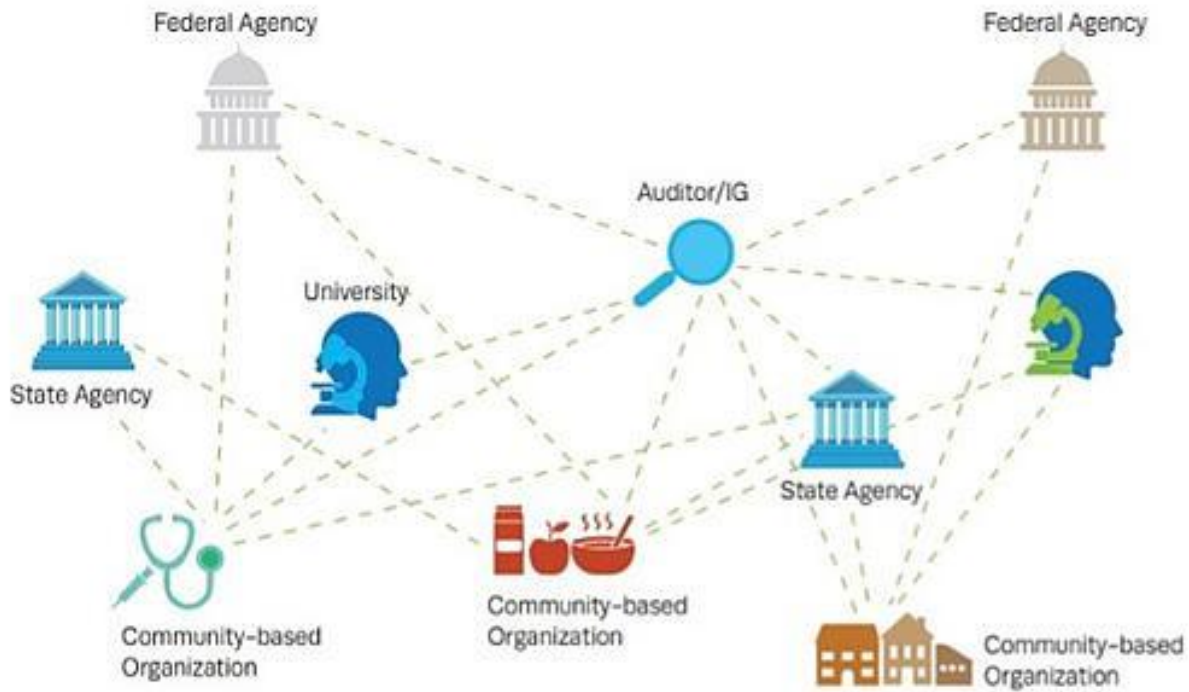
Purpose: Explore how a blockchain-based solution could improve grants management for both federal agencies and grant recipients.

- Reduces grant recipients redundant reporting
- Improves payment efficiency for second- and third-tier grant recipients
- Supports more informed decision making by federal grant making entities
 - Improved transparency, quality, and timeliness of financial information
- Reduces effort for grant making and grant recipient organizations to integrate current systems used for day-to-day grants management
- Improved data access for Inspector General community

MITRE Blockchain POC – System Architecture

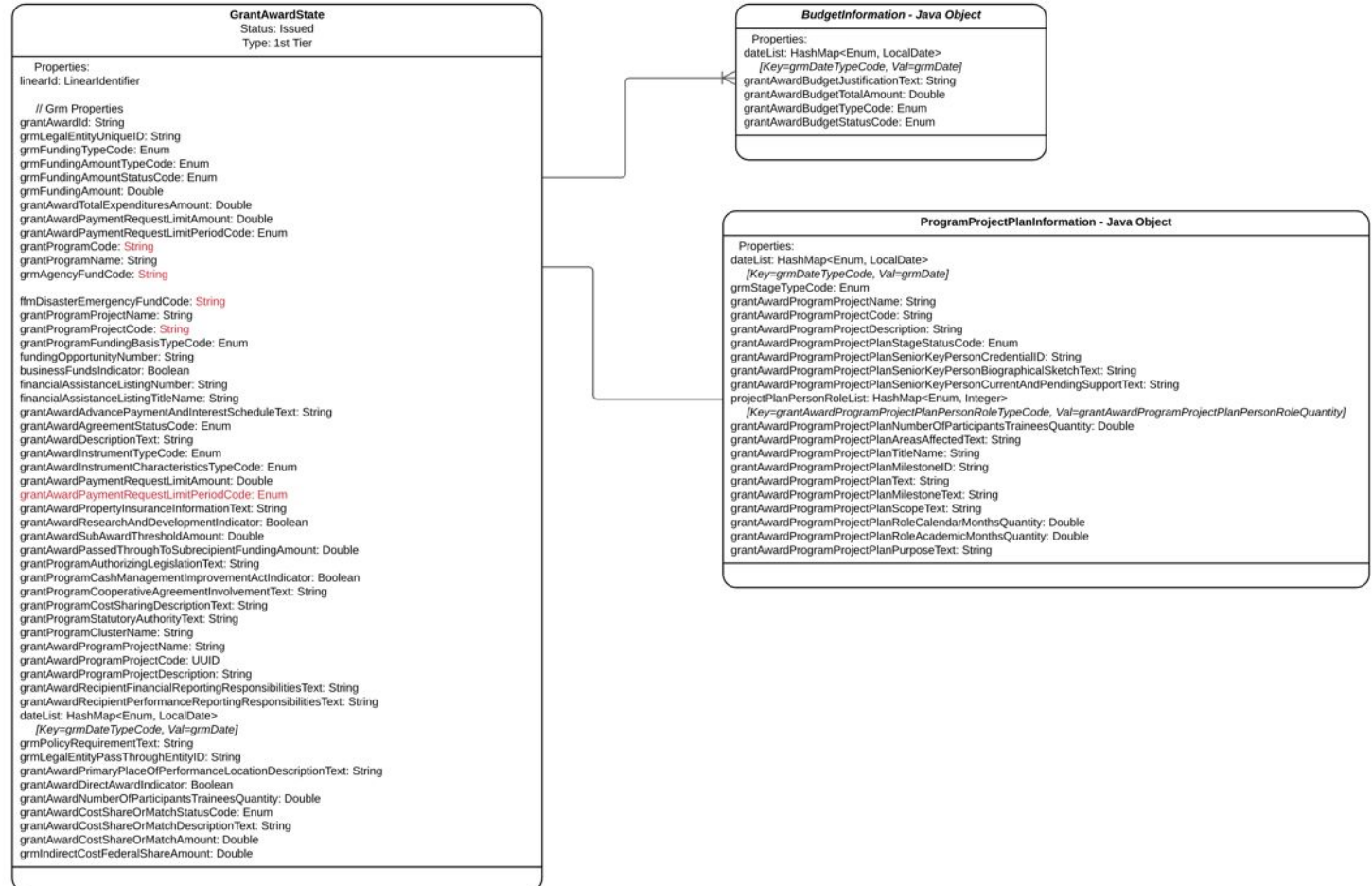


MITRE Blockchain POC - Initiative



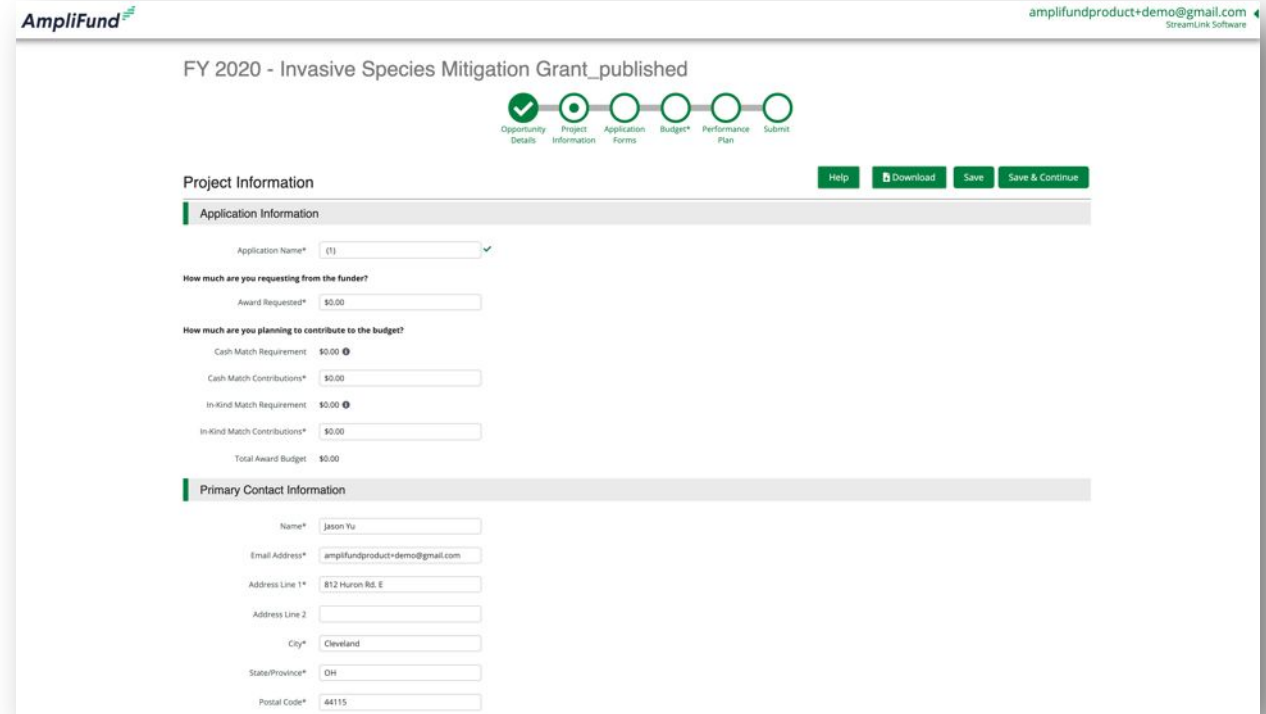
MITRE Blockchain POC – FIBF Data Structure

- FIBF Data Elements
- Standardized data elements allow system-agnostic integration.
 - Grants
 - Budgets
 - Project plans
 - Payment requests
 - Periodic financial and performance reports



MITRE Blockchain POC – Awards Made

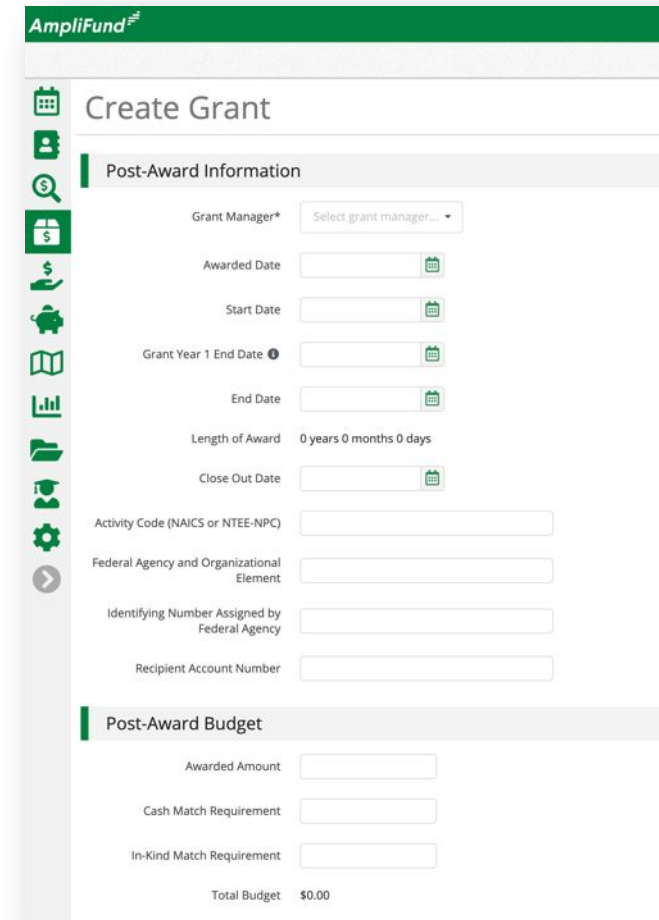
- Grant recipient information, including organization name, address, etc. are captured as part of the application process.



The screenshot shows the AmpliFund application interface. At the top, the title is "FY 2020 - Invasive Species Mitigation Grant_published". A progress bar indicates the current step is "Budget*", with previous steps "Opportunity Details", "Project Information", "Application Forms", "Performance Plan", and "Submit" completed. The form is divided into sections: "Project Information" (with sub-section "Application Information"), "Primary Contact Information", and "How much are you requesting from the funder?". The "Application Information" section includes fields for "Application Name*" (value: (1)), "Award Requested*" (\$0.00), "Cash Match Requirement" (\$0.00), "Cash Match Contributions*" (\$0.00), "In-Kind Match Requirement" (\$0.00), and "In-Kind Match Contributions*" (\$0.00). The "Total Award Budget" is \$0.00. The "Primary Contact Information" section includes fields for "Name*" (Jason Yu), "Email Address*" (amplifundproduct+demo@gmail.com), "Address Line 1*" (812 Huron Rd, E), "Address Line 2*", "City*" (Cleveland), "State/Province*" (OH), and "Postal Code*" (44115). Navigation buttons for "Help", "Download", "Save", and "Save & Continue" are visible.

MITRE Blockchain POC – Awards Made

- Grant recipient information, including organization name, address, etc. are captured as part of the application process.
- Additional details are supplied by the first- or second-tier funder (Federal, state agency) at the time of award.



The screenshot shows the 'Create Grant' form in the AmpliFund system. The form is divided into two main sections: 'Post-Award Information' and 'Post-Award Budget'. The 'Post-Award Information' section includes fields for Grant Manager (a dropdown menu), Awarded Date, Start Date, Grant Year 1 End Date, End Date, Length of Award (displayed as 0 years 0 months 0 days), Close Out Date, Activity Code (NAICS or NTEE-NPC), Federal Agency and Organizational Element, Identifying Number Assigned by Federal Agency, and Recipient Account Number. The 'Post-Award Budget' section includes fields for Awarded Amount, Cash Match Requirement, and In-Kind Match Requirement, with a Total Budget of \$0.00.

Post-Award Information	
Grant Manager*	Select grant manager... ▾
Awarded Date	<input type="text"/>
Start Date	<input type="text"/>
Grant Year 1 End Date ⓘ	<input type="text"/>
End Date	<input type="text"/>
Length of Award	0 years 0 months 0 days
Close Out Date	<input type="text"/>
Activity Code (NAICS or NTEE-NPC)	<input type="text"/>
Federal Agency and Organizational Element	<input type="text"/>
Identifying Number Assigned by Federal Agency	<input type="text"/>
Recipient Account Number	<input type="text"/>

Post-Award Budget	
Awarded Amount	<input type="text"/>
Cash Match Requirement	<input type="text"/>
In-Kind Match Requirement	<input type="text"/>
Total Budget	\$0.00

MITRE Blockchain POC – Awards Made

- Grant recipient information, including organization name, address, etc. are captured as part of the application process.
- Additional details are supplied by the first- or second-tier funder (Federal, state agency) at the time of award.
- Details can be used to automate population of contracts.

AmpliFund

1. GRANT TITLE Hope for the Future		4. AWARD PERIOD From: 10/01/2018 To: 09/30/2019	
2. NAME OF AGENCY Gateway Community Services		3. AGENCY UNIT TO ADMINISTER GRANT Gateway Community Services	
5. PROJECT DESCRIPTION Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.			
6. FUNDS ALLOCATED UNDER THIS AGREEMENT SHALL NOT EXCEED:		\$ 150,000.00	
7. TERMS AND CONDITIONS: The Grantee agrees to complete the project as described in the Project Description. The Grantee's Application, and the California Code of Regulations, Title 13, Division 2, Chapter 13, Sections 1890.00-1890.32.2 are hereby incorporated into this agreement by reference. The parties hereto agree to comply with the terms and conditions of the following attachments: <ul style="list-style-type: none"> • Schedule A - Problem Statement, Goals and Objectives and Method of Procedure • Schedule B - Detailed Budget Estimate • Schedule B-1 - Budget Narrative • *Department of California Highway Patrol (CHP) Cannabis Tax Fund Grant Program Handbook *Items shown with an asterisk (*), are hereby incorporated by reference and made a part of this agreement as if attached hereto. These documents can be viewed at the CHP web page under Impaired Driving Section: www.chp.ca.gov We, the officials named below, hereby swear under penalty of perjury under the laws of the State of California that we are duly authorized to legally bind the Grant recipient to the above described Grant terms and conditions. IN WITNESS WHEREOF, this Agreement has been executed by the parties hereto.			
8. APPROVAL SIGNATURES			
A. AUTHORIZED OFFICIAL OF AGENCY		B. AUTHORIZED OFFICIAL CHP	
NAME:	PHONE:	NAME:	PHONE:
TITLE:	FAX:	TITLE:	FAX:
ADDRESS:		ADDRESS:	
E-MAIL:		E-MAIL:	
_____	_____	_____	_____
(Signature)	(Date)	(Signature)	(Date)
C. ACCOUNTING OFFICER OF CHP		D. AUTHORIZED FINANCIAL CONTACT TO RECEIVE PAYMENTS	
NAME: R. R. METZ	PHONE: (916) 843-3530	NAME:	
TITLE: Commander	FAX: (916) 322-3159	ADDRESS:	
ADDRESS: 601 North 7 th Street Sacramento, California 95811			
E-MAIL: rebecca.metz@chp.ca.gov			
_____	_____		
(Signature)	(Date)		
		9. DUNS NUMBER	
		DUNS #:	
		REGISTERED ADDRESS & ZIP:	

MITRE Blockchain POC – Awards Made

- Grant recipient information, including organization name, address, etc. are captured as part of the application process.
- Additional details are supplied by the first- or second-tier funder (Federal, state agency) at the time of award.
- Details can be used to automate population of contracts.
- As awards are made, data is posted to ledger and visible across all parties.

AmpliFund Opportunity Funding Report

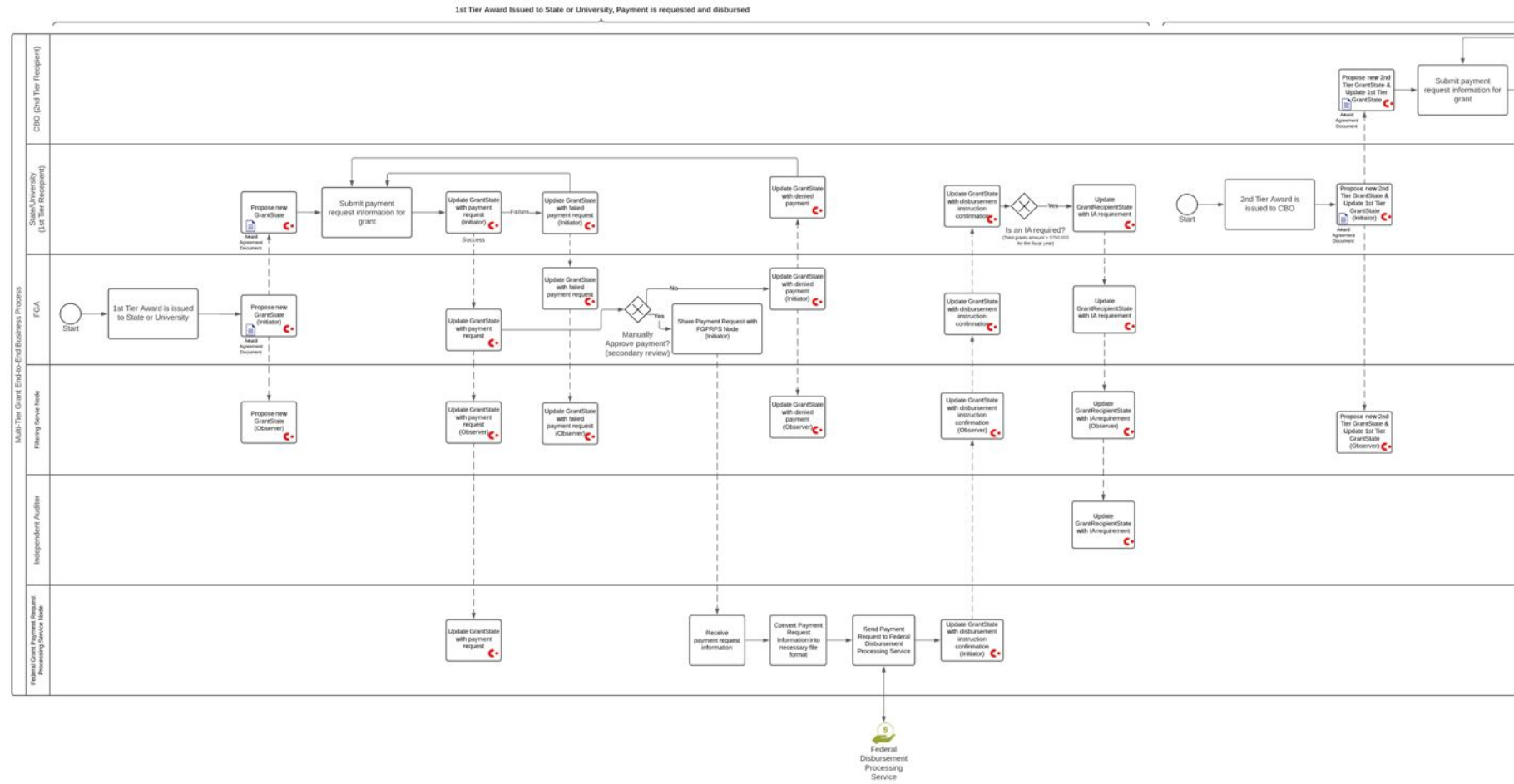
Sample Grant Program
1/1/2021 - 12/30/2021
\$2,624,196

Recipient Organization	Award Name	Awarded Date	Start Date	Grant-Funded Amount	Cash Match	Total Award	Total Actual	Total Remaining
The Arc Cleveland, Inc.	Transition to Employment	10/31/2016	10/01/2016	\$150,000.00	\$0.00	\$150,000.00	\$146,368.41	\$3,631.59
Lutheran Social Services of Northeast Ohio, Inc.	LSS Community Food Pantry	10/31/2016	10/01/2016	\$42,547.00	\$0.00	\$42,547.00	\$42,547.00	\$0.00
Beaches Emergency Assistance Ministry, Inc. (E	Rent and Utility Assistance Program	10/31/2016	10/01/2016	\$66,350.00	\$0.00	\$66,350.00	\$66,350.08	-\$0.08
Vision Is Priceless	Adult Vision Care Program	10/31/2016	10/01/2016	\$75,000.00	\$0.00	\$75,000.00	\$74,964.41	\$35.59
Cleveland Area Legal Aid	FY17 PSG - Disability Rights & Benefits Program - J	10/31/2016	10/01/2016	\$134,495.00	\$0.00	\$134,495.00	\$134,495.00	\$0.00
Cleveland Area Legal Aid	FY17 PSG Homelessness Prevention Program - JAL	10/31/2016	10/01/2016	\$149,544.00	\$0.00	\$149,544.00	\$149,544.00	\$0.00
Cleveland Area Legal Aid	FY17 PSG Low-Income Financial Stability Program -	10/31/2016	10/01/2016	\$148,517.00	\$0.00	\$148,517.00	\$148,517.00	\$0.00
United Way of Northeast Ohio	United Way RealSense 2016-2017 PSG Proposal	10/31/2016	10/01/2016	\$150,000.00	\$0.00	\$150,000.00	\$147,623.83	\$2,376.17
Family Support Services of North Ohio, Inc.	FSSNF - Independent Living Program	10/31/2016	10/01/2016	\$149,757.00	\$0.00	\$149,757.00	\$139,978.16	\$9,778.84
I.M. Sulzbacher Center for the Homeless, Inc.	Emergency Shelter Services for Homeless Men	10/31/2016	10/31/2016	\$150,000.00	\$0.00	\$150,000.00	\$156,585.04	-\$6,585.04
Hubbard House	Hubbard House - Emergency Shelter Program	10/31/2016	10/01/2016	\$150,000.00	\$0.00	\$150,000.00	\$149,587.99	\$412.01
Clara White Mission, Inc.	Comprehensive Emergency Services for Homeless I	10/31/2016	10/01/2016	\$100,761.00	\$0.00	\$100,761.00	\$100,761.00	\$0.00
Hubbard House	Hubbard House - Outreach Program	10/31/2016	10/01/2016	\$37,206.00	\$0.00	\$37,206.00	\$37,206.00	\$0.00
United Way of Northeast Ohio	United Way 2-1-1 2017 PSG Proposal	10/31/2016	10/01/2016	\$150,000.00	\$0.00	\$150,000.00	\$150,000.00	\$0.00
We Care Cleveland, Inc.	Providing Low-Income, Uninsured with Specialty He	10/31/2016	10/01/2016	\$16,257.00	\$0.00	\$16,257.00	\$16,257.00	\$0.00
Catholic Charities Bureau, Inc., Cleveland Regio	Workforce Development Program	10/31/2016	10/01/2016	\$81,963.00	\$0.00	\$81,963.00	\$81,963.00	\$0.00
Family Foundations of Northeast Ohio, Inc.	Mental Health Counseling	10/31/2016	10/01/2016	\$103,014.00	\$0.00	\$103,014.00	\$103,014.00	\$0.00
Learn to Read, Inc.	Cleveland READS Low Income Persons and Familie	10/31/2016	10/01/2016	\$58,662.00	\$0.00	\$58,662.00	\$59,662.00	-\$1,000.00
Jewish Family & Community Services, Inc.	Emergency Financial Assistance	10/31/2016	10/01/2016	\$75,000.00	\$0.00	\$75,000.00	\$74,902.26	\$97.74
Gateway Community Services	Gateway Independence Village Case Manager	10/31/2016	10/01/2016	\$18,407.00	\$0.00	\$18,407.00	\$18,407.00	\$0.00
Urban Cleveland, Inc. dba Aging True Communi	Aging True Community Senior Services COJ - FY 20	10/31/2016	10/01/2016	\$131,210.00	\$0.00	\$131,210.00	\$140,190.51	-\$8,980.51
Pine Castle	Pine Castle - Training and Work Services	10/31/2016	10/01/2016	\$150,000.00	\$0.00	\$150,000.00	\$150,000.00	\$0.00
Family Support Services of North Ohio, Inc.	FSSNF - Mental/Behavioral Health - Transitioning Yi	10/31/2016	10/01/2016	\$90,344.00	\$0.00	\$90,344.00	\$65,050.63	\$25,293.37
Family Support Services of North Ohio, Inc.	FSSNF - Kinship Care	10/31/2016	10/01/2016	\$145,162.00	\$0.00	\$145,162.00	\$99,451.00	\$45,711.00
I.M. Sulzbacher Center for the Homeless, Inc.	Sulzbacher Community Meals Program	10/31/2016	10/01/2016	\$50,000.00	\$0.00	\$50,000.00	\$50,000.00	\$0.00
Daniel Memorial, Inc.	Daniel Memorial Homeless Services for Young Adult	10/31/2016	10/01/2016	\$50,000.00	\$0.00	\$50,000.00	\$50,000.00	\$0.00
Total				\$2,624,196.00	\$0.00	\$2,624,196.00	\$2,553,425.32	\$70,770.68

MITRE Blockchain POC – Grants Lifecycle

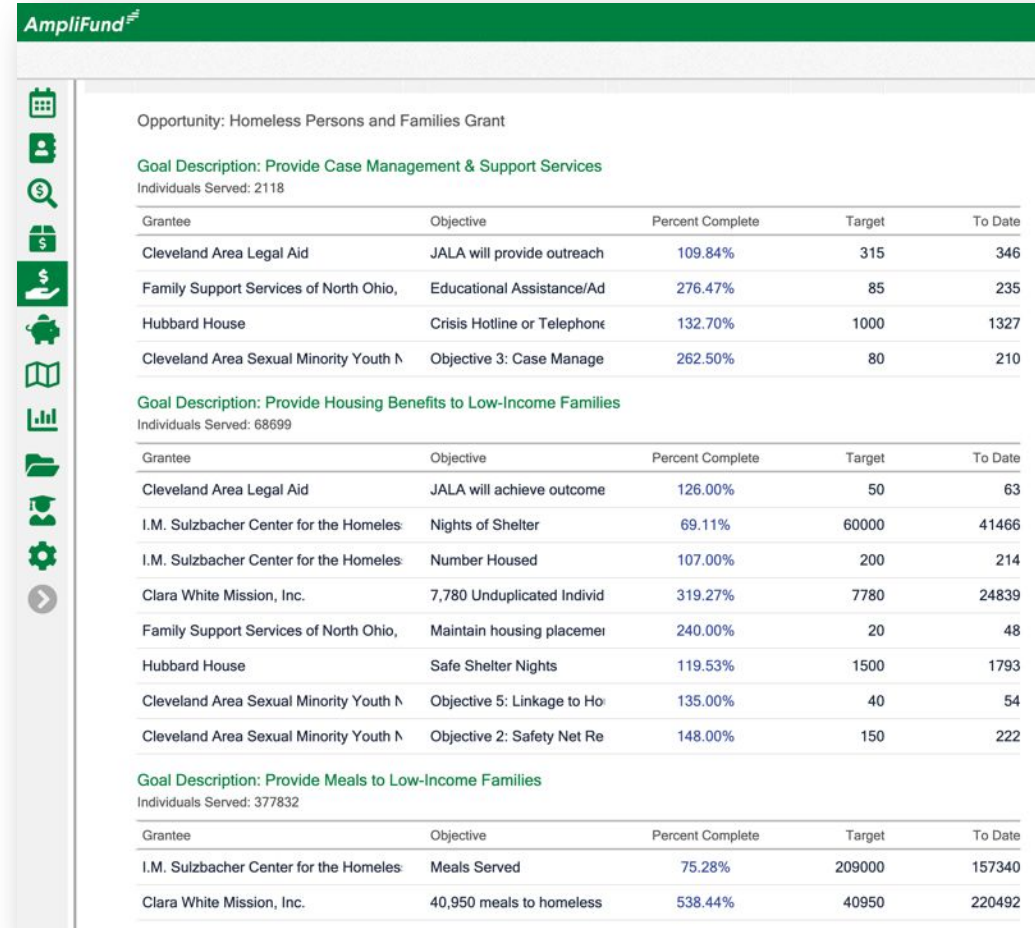


Data structure defined by the Federal Government flows down through first- and second-tier recipient processes.



MITRE Blockchain POC – Performance

- Define project plans, expected outputs.
- Track performance at all levels including program, recipient, and grant.
- Leverage historical data to inform decision-making.



The screenshot displays the AmpliFund dashboard with a sidebar of navigation icons. The main content area shows three goal descriptions, each with a table of performance metrics. The first goal is 'Provide Case Management & Support Services' (2118 individuals served), the second is 'Provide Housing Benefits to Low-Income Families' (68699 individuals served), and the third is 'Provide Meals to Low-Income Families' (377832 individuals served). Each table lists grantees, objectives, percent complete, target, and to-date values.

Opportunity: Homeless Persons and Families Grant				
Goal Description: Provide Case Management & Support Services				
Individuals Served: 2118				
Grantee	Objective	Percent Complete	Target	To Date
Cleveland Area Legal Aid	JALA will provide outreach	109.84%	315	346
Family Support Services of North Ohio,	Educational Assistance/Ad	276.47%	85	235
Hubbard House	Crisis Hotline or Telephone	132.70%	1000	1327
Cleveland Area Sexual Minority Youth N	Objective 3: Case Manage	262.50%	80	210

Goal Description: Provide Housing Benefits to Low-Income Families				
Individuals Served: 68699				
Grantee	Objective	Percent Complete	Target	To Date
Cleveland Area Legal Aid	JALA will achieve outcome	126.00%	50	63
I.M. Sulzbacher Center for the Homeles	Nights of Shelter	69.11%	60000	41466
I.M. Sulzbacher Center for the Homeles	Number Housed	107.00%	200	214
Clara White Mission, Inc.	7,780 Unduplicated Individ	319.27%	7780	24839
Family Support Services of North Ohio,	Maintain housing placemer	240.00%	20	48
Hubbard House	Safe Shelter Nights	119.53%	1500	1793
Cleveland Area Sexual Minority Youth N	Objective 5: Linkage to Ho	135.00%	40	54
Cleveland Area Sexual Minority Youth N	Objective 2: Safety Net Re	148.00%	150	222

Goal Description: Provide Meals to Low-Income Families				
Individuals Served: 377832				
Grantee	Objective	Percent Complete	Target	To Date
I.M. Sulzbacher Center for the Homeles	Meals Served	75.28%	209000	157340
Clara White Mission, Inc.	40,950 meals to homeless	538.44%	40950	220492

Data-Centric Value Creation



- Significantly reduces burden on recipients



- Decreases burden on Federal systems



- Significantly increases transparency within the Federal Government on grants and recipients



- Creates billions in value from Federal grants

- As OMB continues to work across the Federal government to institutionalize data standards, we will likely start to see:
 - Mandated machine-readable data reporting for grants in UGG
 - Use of the FIBF as a possible key component of the data standards
- Longer term outcome could be to require Federal Agencies to move away from form-centric reporting and allow recipients to report in standard data sets that can be used to create Federal forms as needed.

Thank you!

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