20 YEARS ANNIVERSARY

# How to Digital Regulatory Twin?



**Ronald Heller**
Chief Solutions Officer

be informed

## DIGITAL REGULATORY TWIN

# A concise definition

A governed and continuously maintained model that connects authoritative regulatory knowledge and its interpretation to organizational reality, operational implementations, and applications.




**AI-enabled applications**

**AI needs governed context, provenance, and guardrails.**

be informed

© Be Informed 2026 | All rights reserved worldwide

# Digital Regulatory Twin: how it works

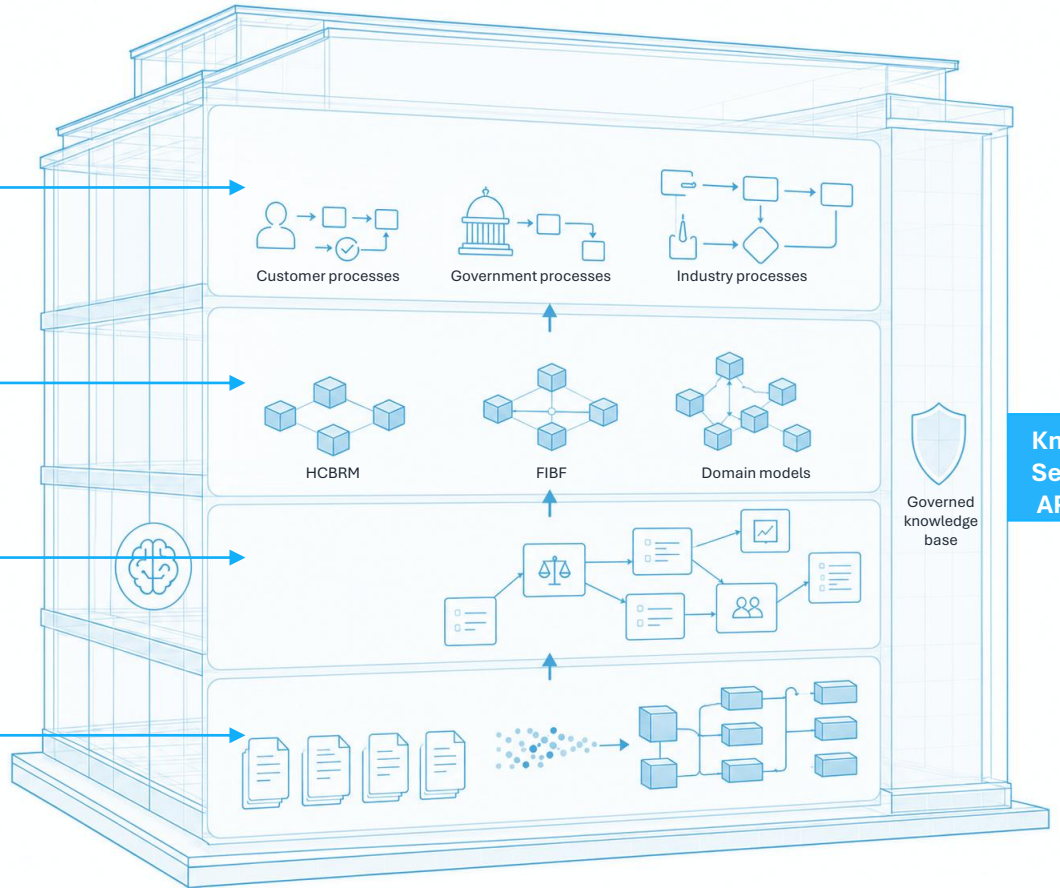
## Manage regulations as a first-class knowledge domain

4 **Execution Model**
Business operation & processes

3 **Operating Model**
Reference models

2 **Legal Model**
Legal interpretation
Governed expert knowledge

1 **Machine-readable regulations**
Structured legal content



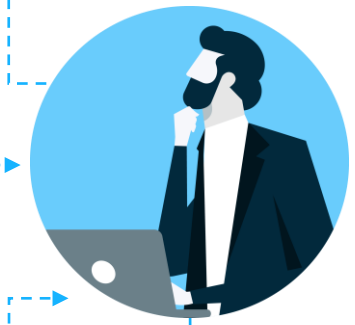

**Knowledge Services / APIs**

**STANDARD APPLICATIONS**
- Documentation Portal

**CUSTOM APPLICATIONS**
- Regulatory Explorer
- Compliance Assistant
- Impact Analyzer

**ENTERPRISE APPLICATIONS**
- AMS
- Third- party systems

- What are my obligations?
- Which requirements apply?
- What changed?
- Why was this decision made?



**Continuous improvement** through expert knowledge and AI-assisted modeling

be informed

© Be Informed 2024 | All rights reserved worldwide

# Where value is created

**Improve regulations.** Test proposals before adoption, and evaluate existing rules for ambiguity, contradictions and unnecessary burden.

**Anticipate change.** Compare proposed alternatives and see which policies, processes, controls and systems each would affect—early enough to respond.

**Build with confidence.** Use approved regulatory knowledge to produce traceable requirements and specifications, and to ground AI answers where needed.

**Do once, reuse everywhere.** Maintain shared knowledge as rules change, then reuse it across teams, projects and applications.

be informed

© Be Informed 2026 | All rights reserved worldwide

# Example: Human Capital

The challenge is to demonstrate that the Human Capital processes support the functions and service standards federal customers expect.



be informed

© Be Informed 2024 | All rights reserved worldwide

# The HC domain – the ask

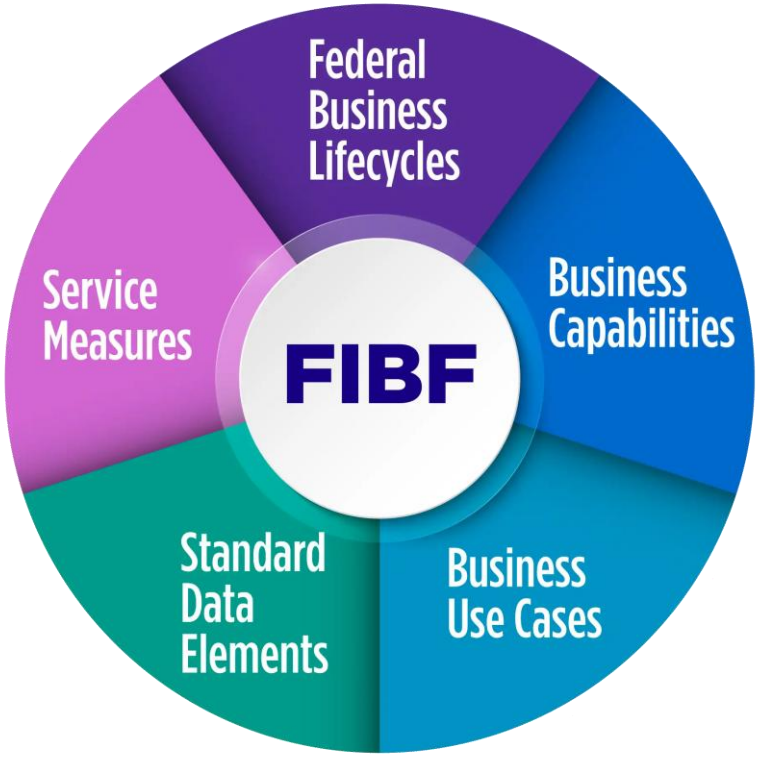
## How can we make our Human Capital knowledge usable and trustworthy for both AI answers and applications?

- Show how users can ask questions and receive answers that are consistent and traceable to the underlying knowledge.
- Show how applications can use that same knowledge, with a clear link between their output and its source.
- Demonstrate how a DRT graph provides the shared structure and guardrails for both, using a concrete Human Capital example.
- Show how existing frameworks such as HCBRM and HCFIBF add value and improve the quality of the DRT.
- Bring this to life with a concrete Human Capital example.


© Be Informed 2026 | All rights reserved worldwide

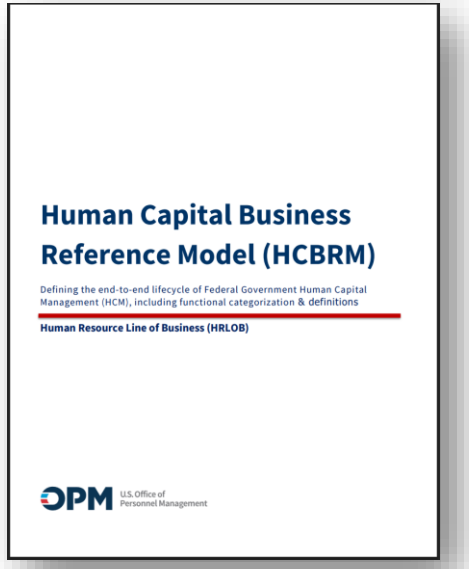
# The framework

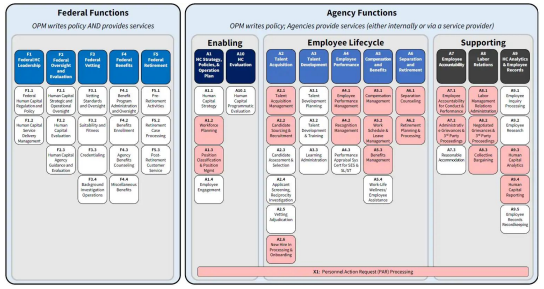
## HUMAN CAPITAL FEDERAL INTEGRATED BUSINESS FRAMEWORK (HC-FIBF)




The HC-FIBF is the service model that enables the Federal government to better coordinate and document common human capital business needs across agencies and focus on outcomes, data, processes, and performance.

Each Agency Subfunction of the HCBRM has its own HC-FIBF, which establishes service delivery and data standards to help agencies meet and advance their organization's strategic human capital objectives.

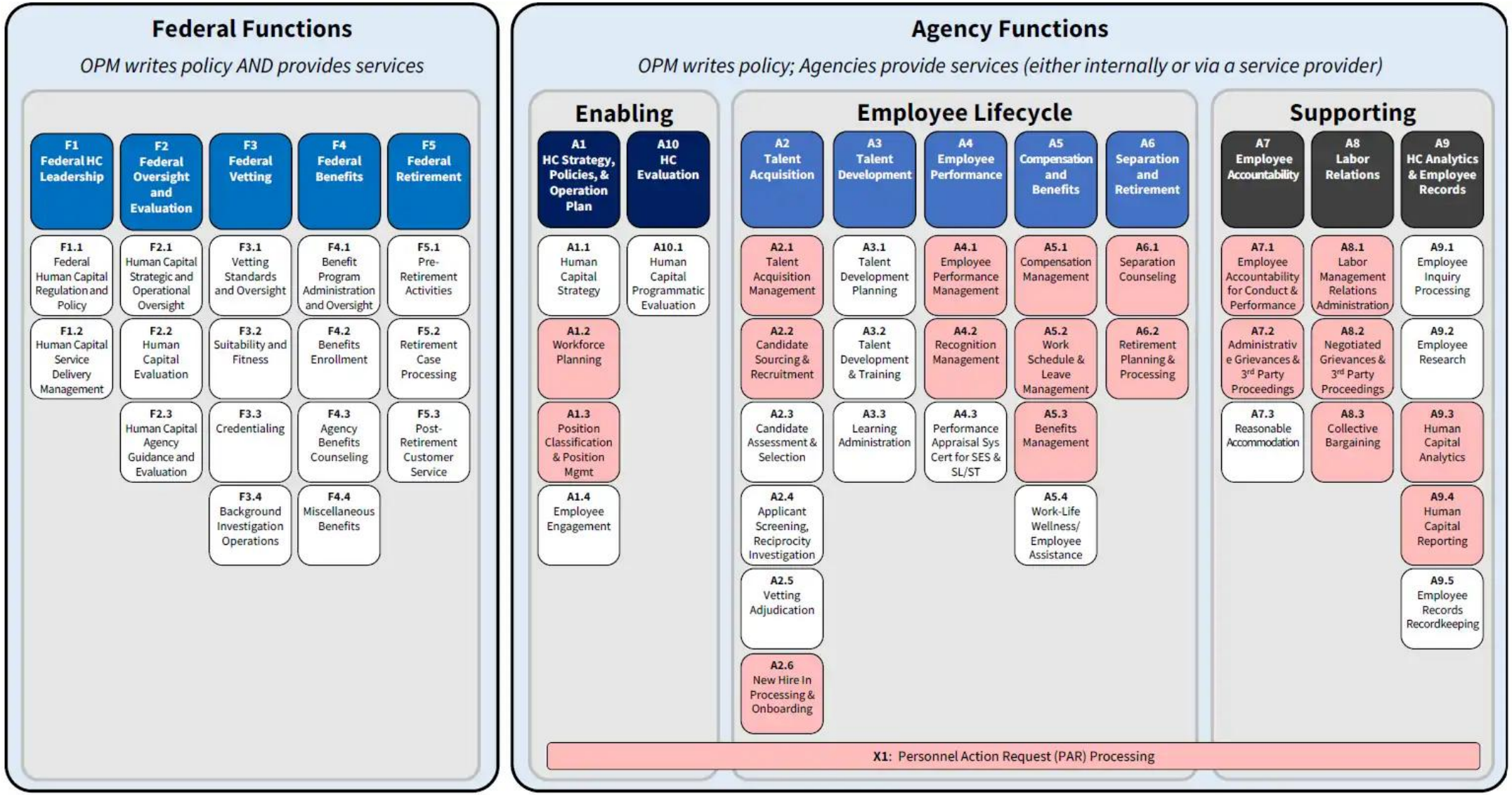



be informed

© Be Informed 2024 | All rights reserved worldwide

# Human Capital Business Reference Model (HCBRM)




be informed

© Be Informed 2026 | All rights reserved worldwide

# The ambitions

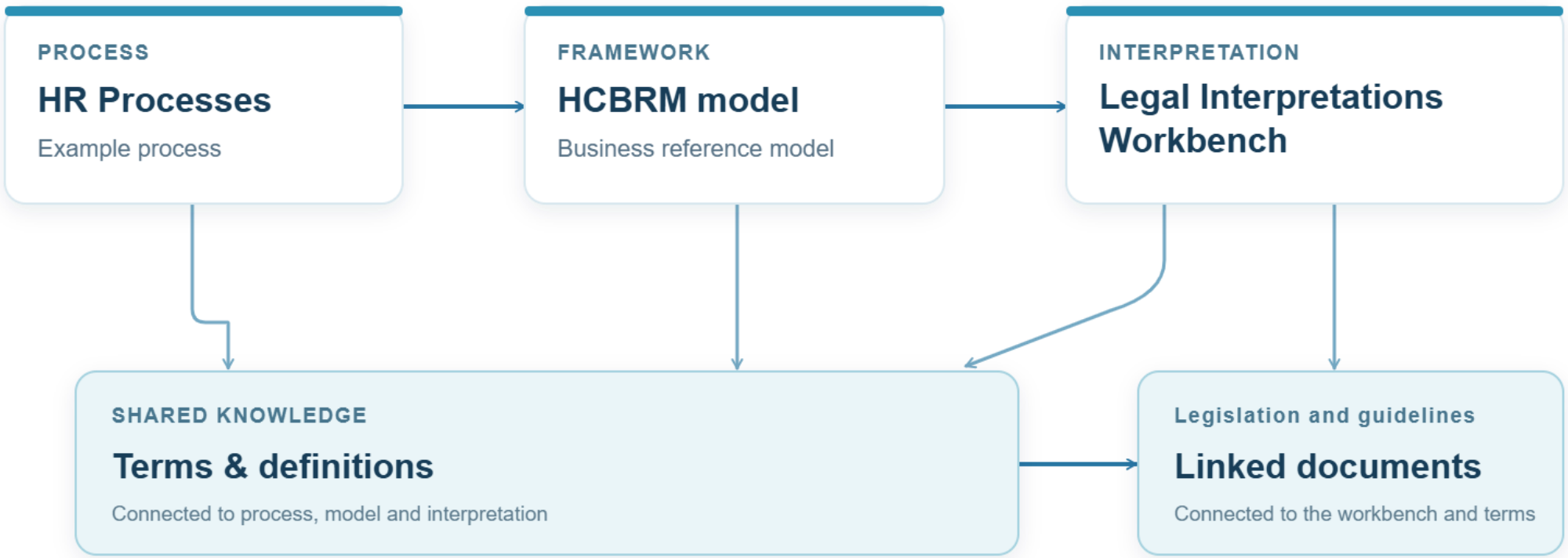
## Our ambitions for the Human Capital project

- **Import relevant regulatory sources** and **use AI to capture FLINT** from them.
- **Validate the captured FLINT** so its meaning and links to the sources can be checked.
- Capture the organisation's **Human Capital processes as business models**.
- **Import existing frameworks**, including HCBRM and HCFIBF, and show how they improve the quality of the model.
- **Link the frameworks to FLINT** and **map the business models to the frameworks**. Together, these connections form the DRT.
- Load the DRT into a **graph database** so its knowledge and relationships can be explored and queried.
- Make that knowledge available through a **chat interface supported by an LLM**. Users should be able to ask a range of questions and receive answers grounded in the DRT, with traceable links to the underlying knowledge.
- Show how the same **DRT can provide traceable input** for applications.


© Be Informed 2024 | All rights reserved worldwide

# The plan: from process to shared, traceable knowledge

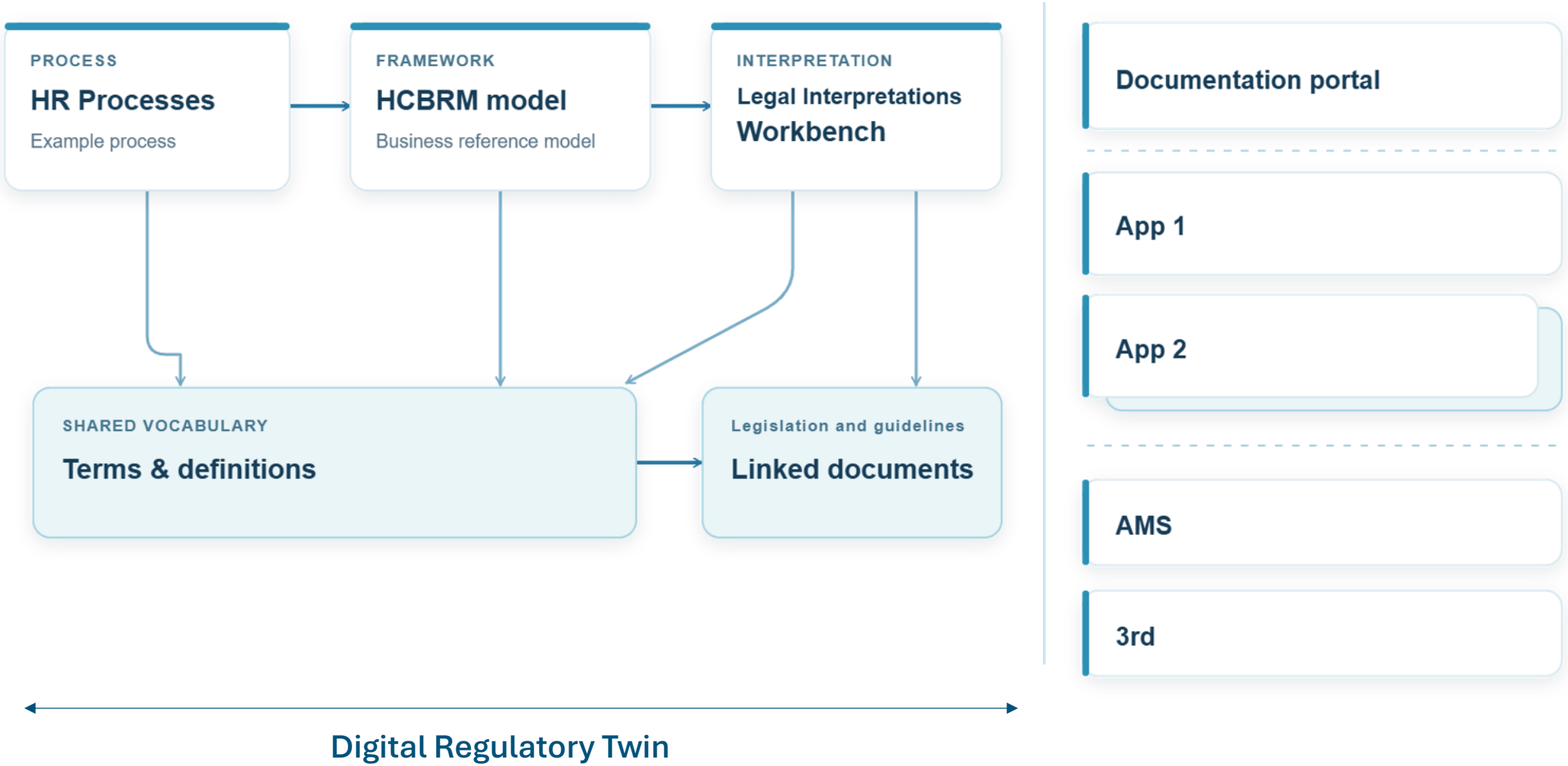
## How processes, framework and interpretations connect to form the DRT






© Be Informed 2024 | All rights reserved worldwide

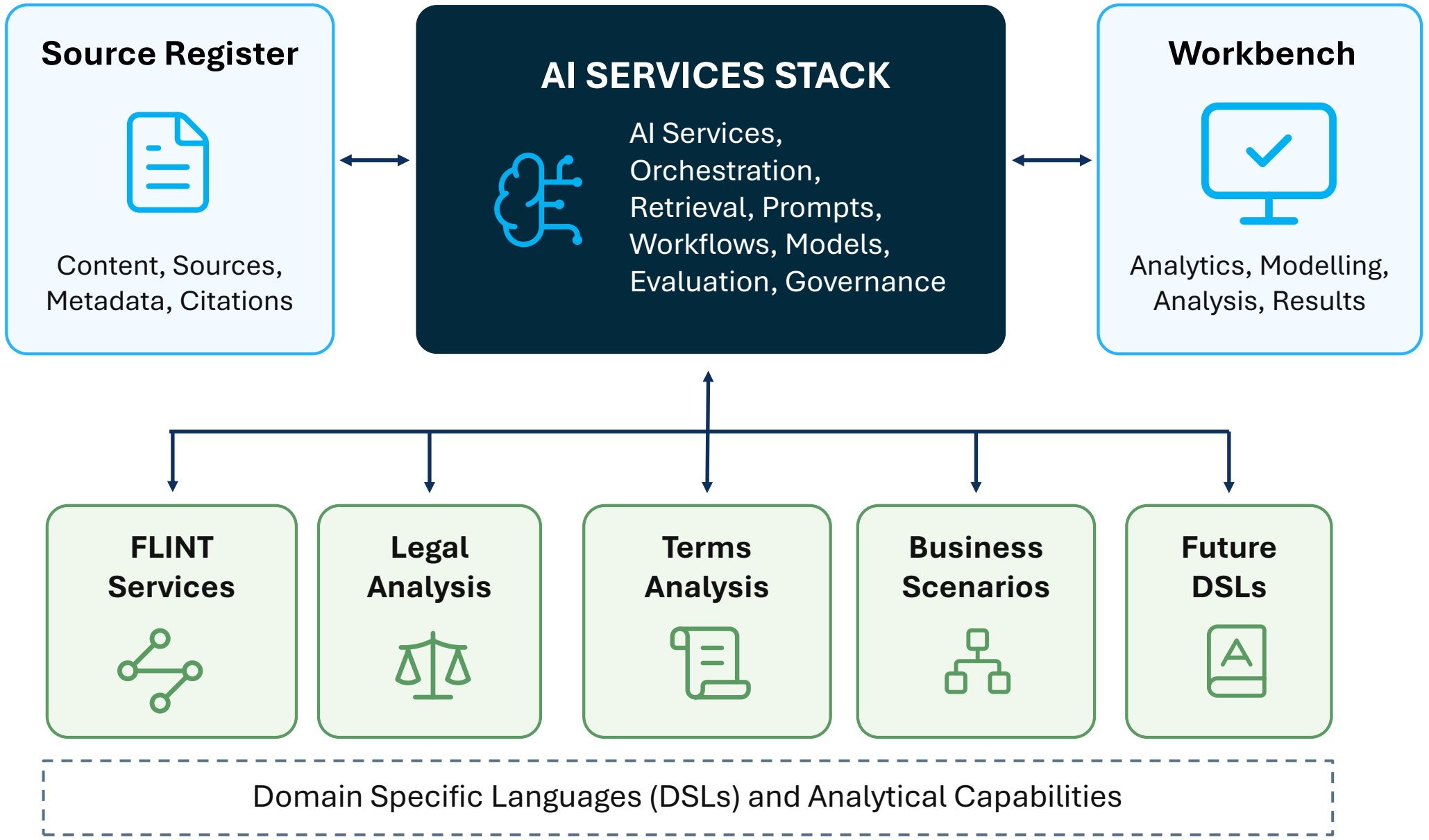
# The plan: using the DRT



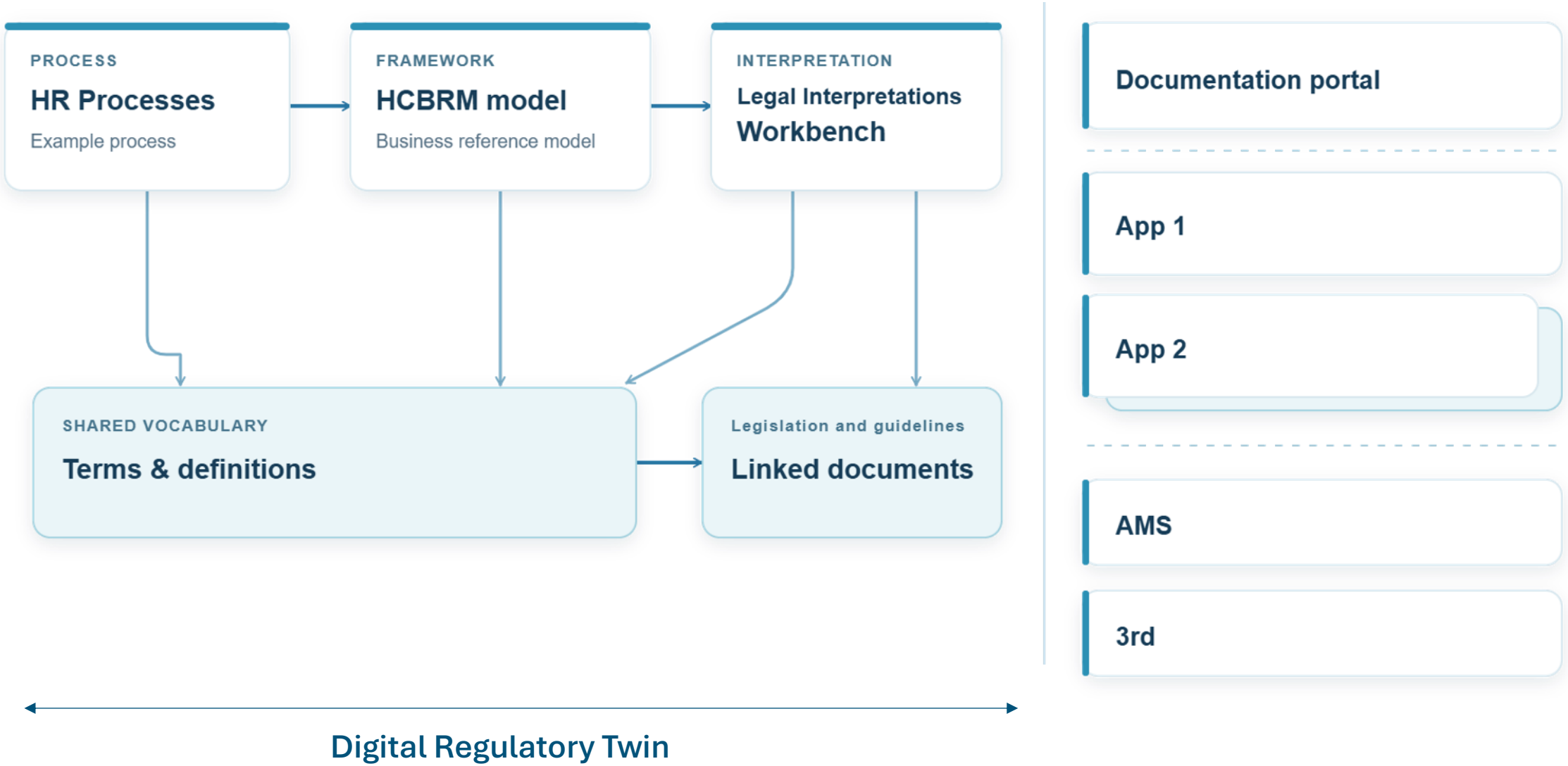

be informed

© Be Informed 2024 | All rights reserved worldwide

# The setup: extracting knowledge from sources



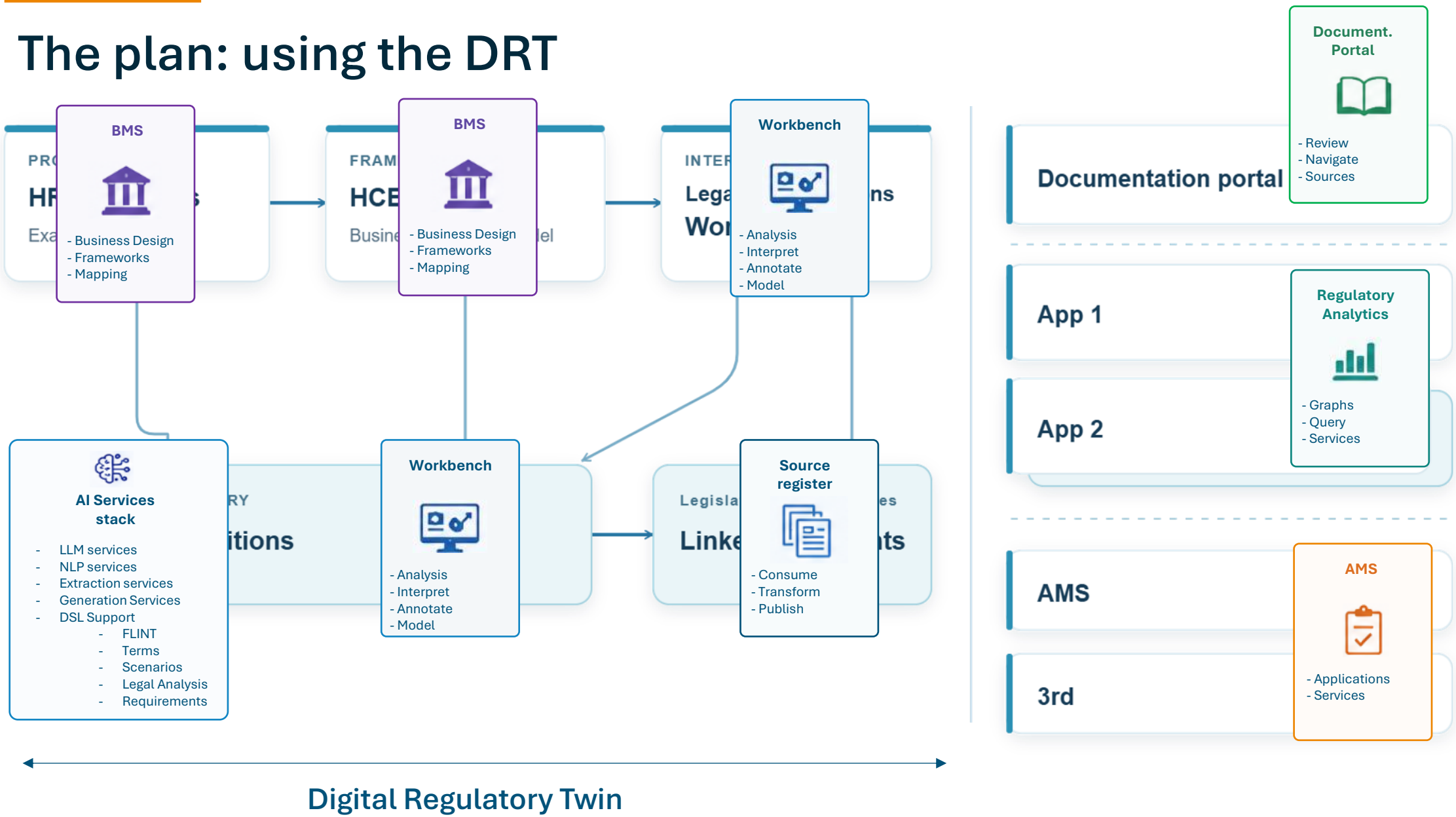
# The plan: using the DRT




be informed

© Be Informed 2024 | All rights reserved worldwide

# The plan: using the DRT




be informed

© Be Informed 2024 | All rights reserved worldwide

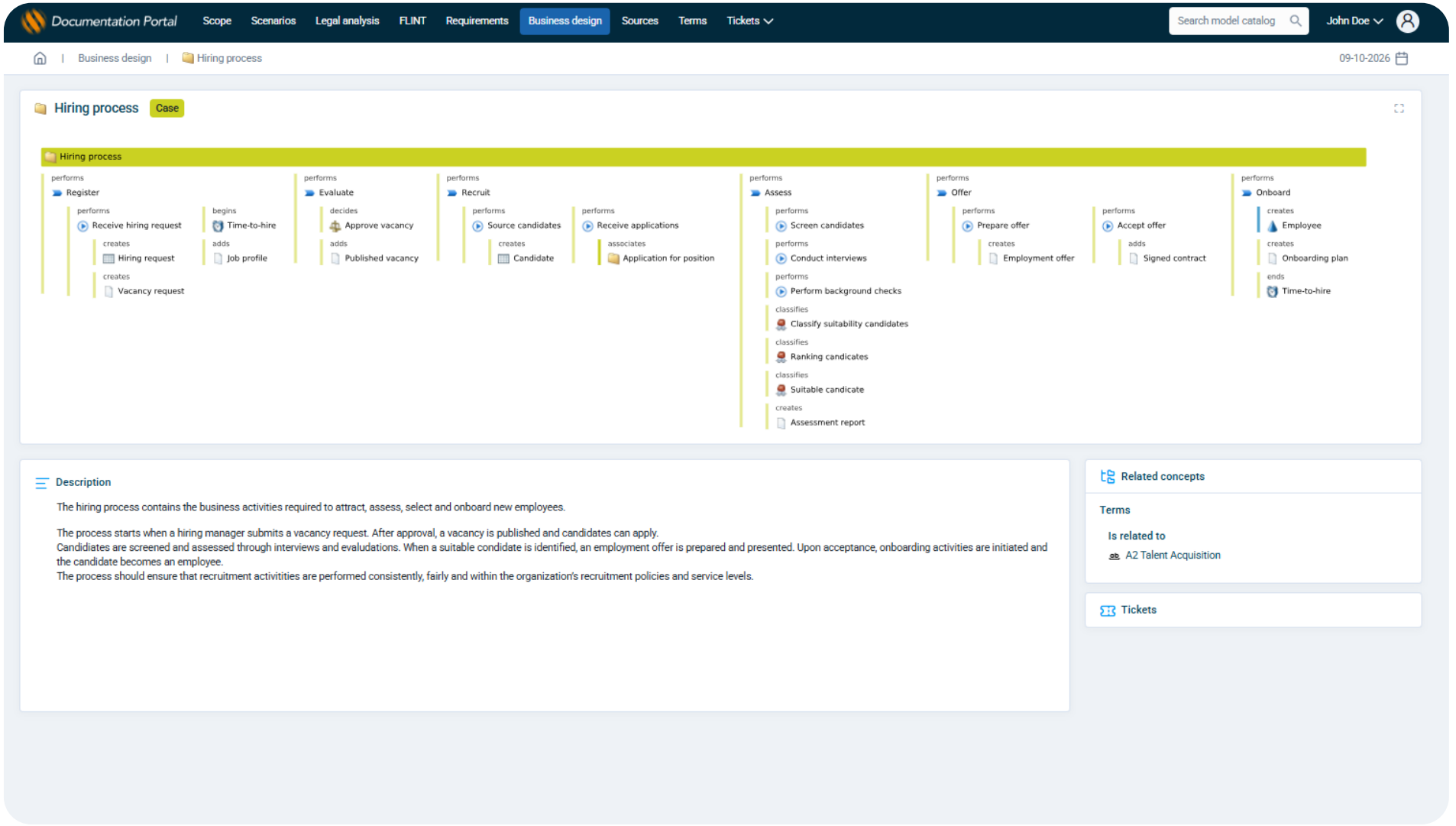
# The results





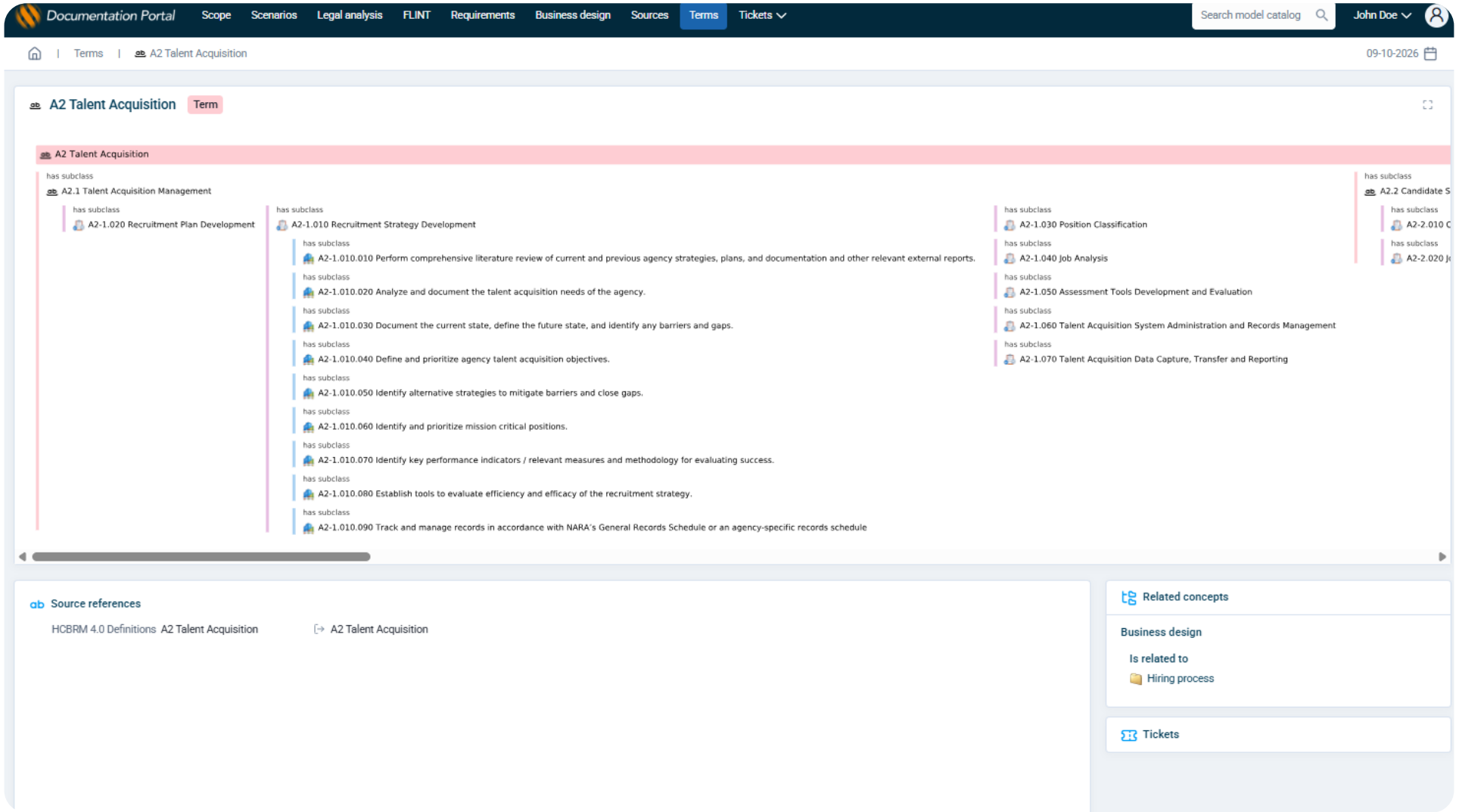

© Be Informed 2026 | All rights reserved worldwide

# Documentation portal: hiring process model

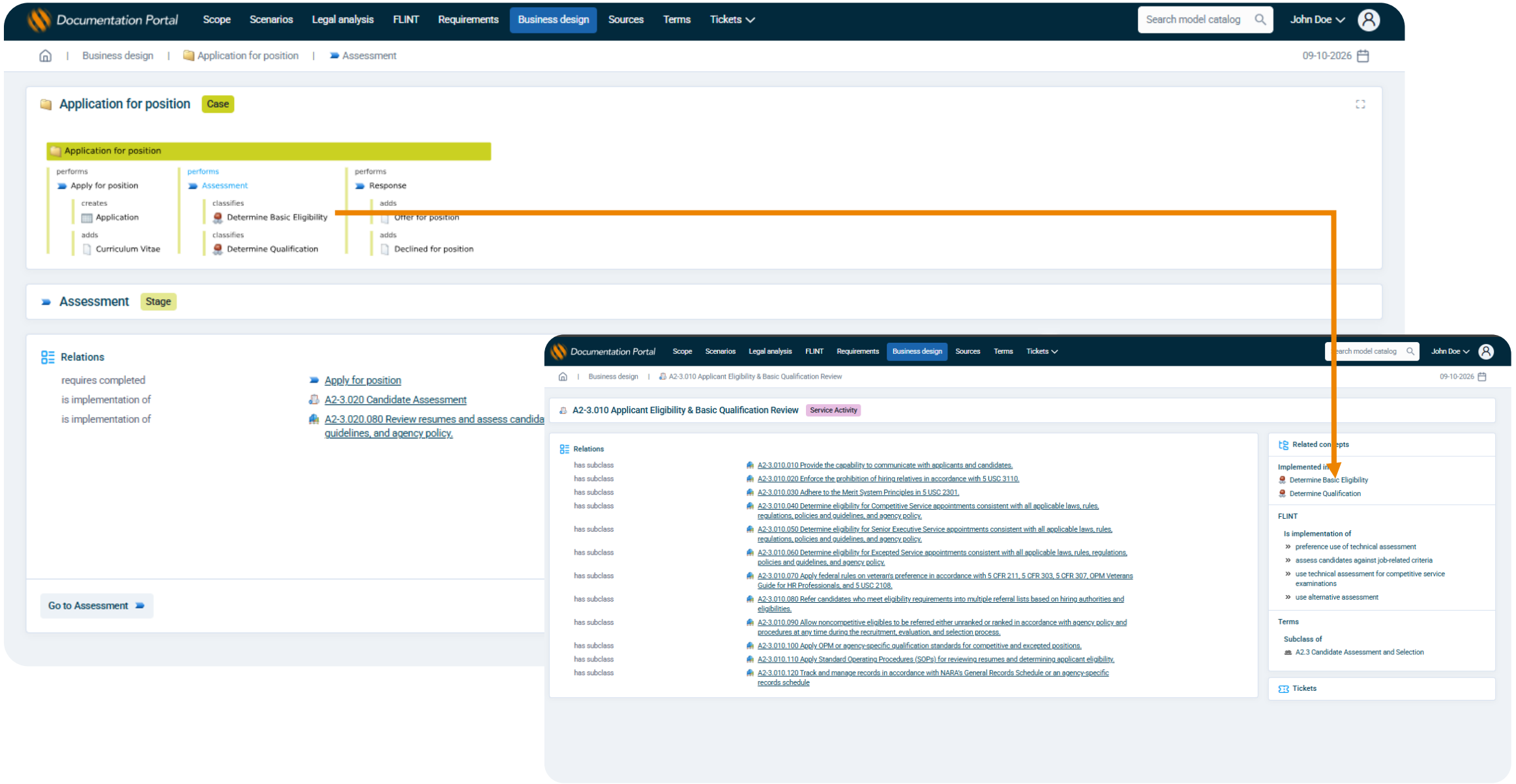



© Be Informed 2026 | All rights reserved worldwide

# Documentation portal: terms from HCBRM

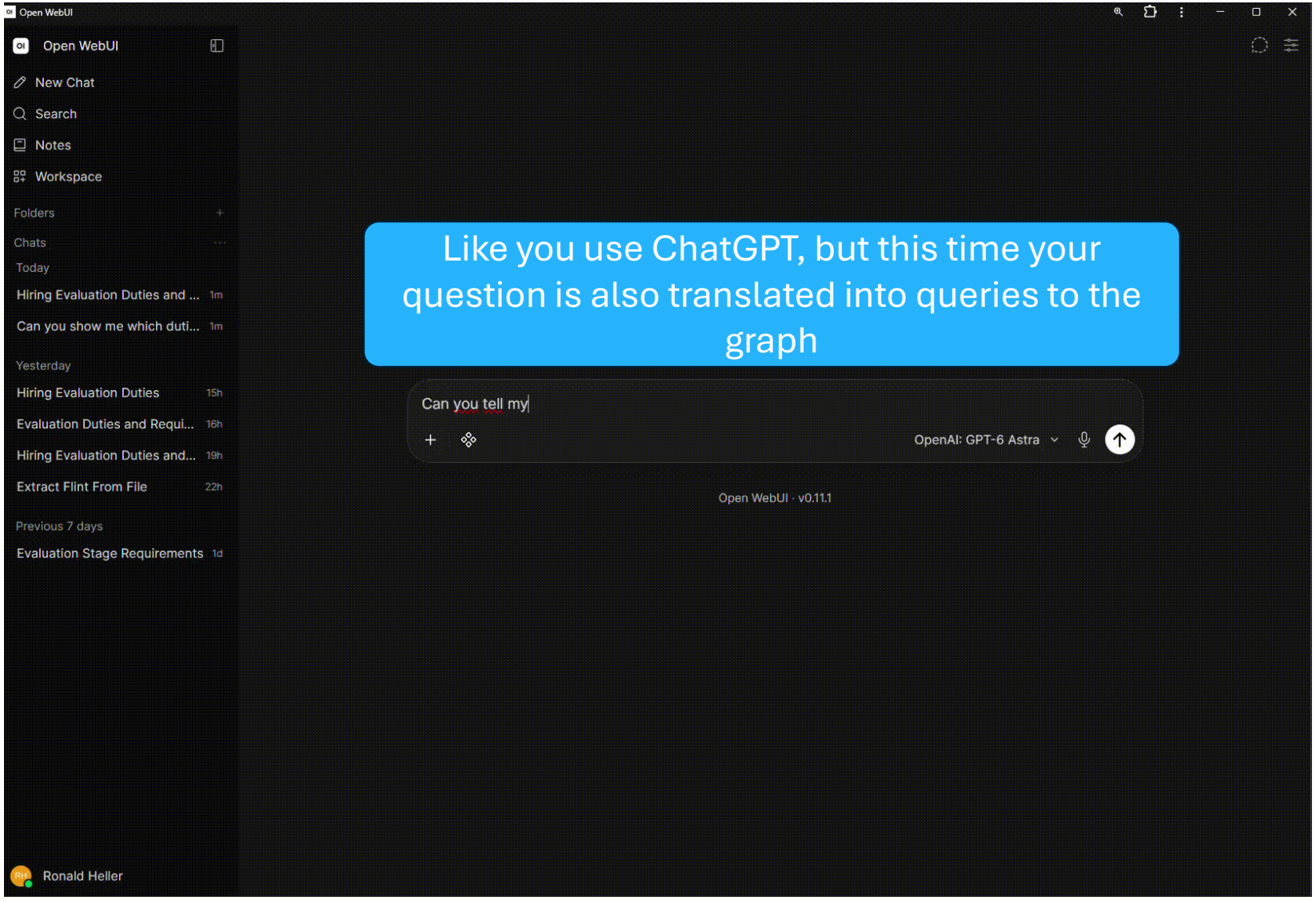



© Be Informed 2026 | All rights reserved worldwide

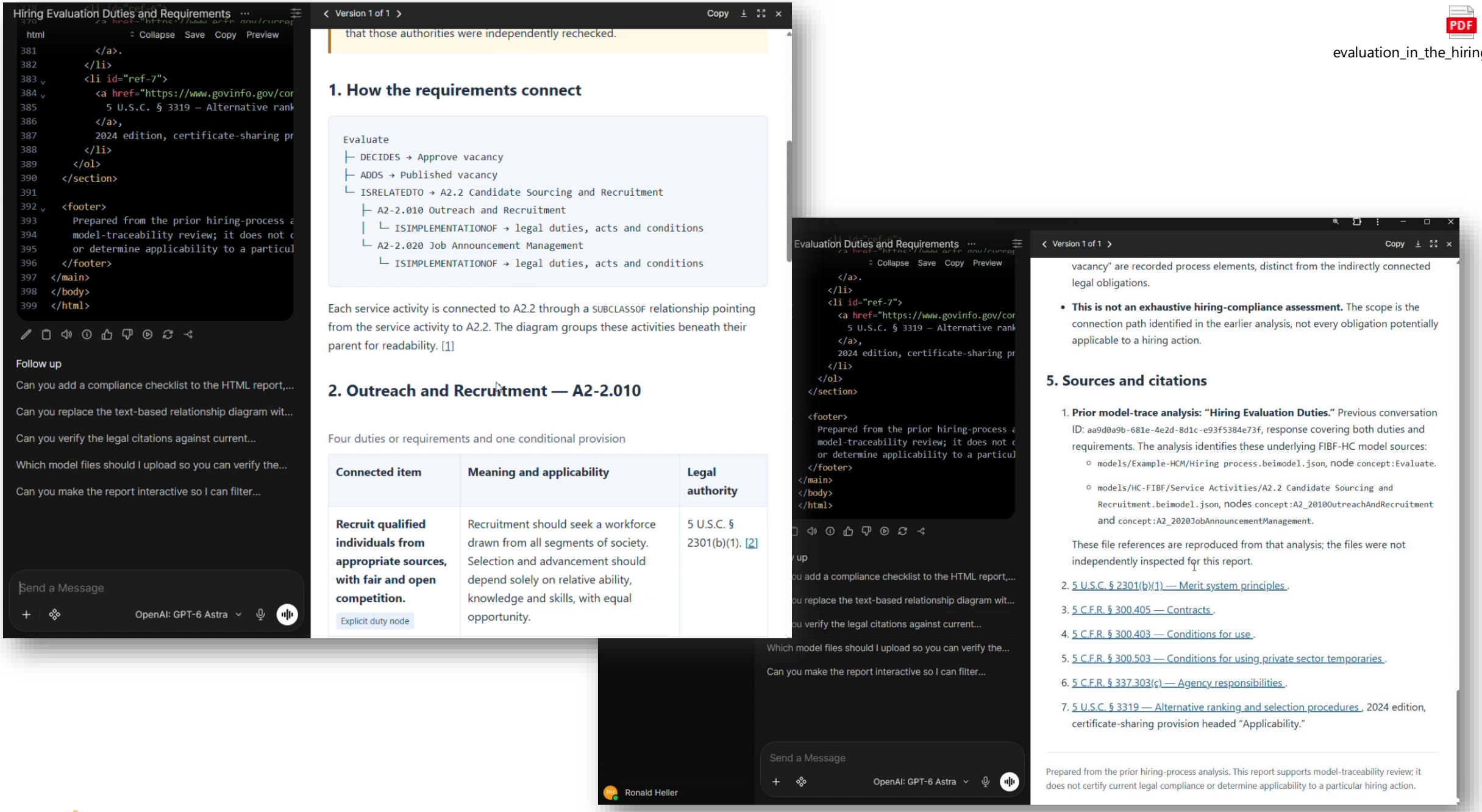



© Be Informed 2026 | All rights reserved worldwide

# OpenWebUI



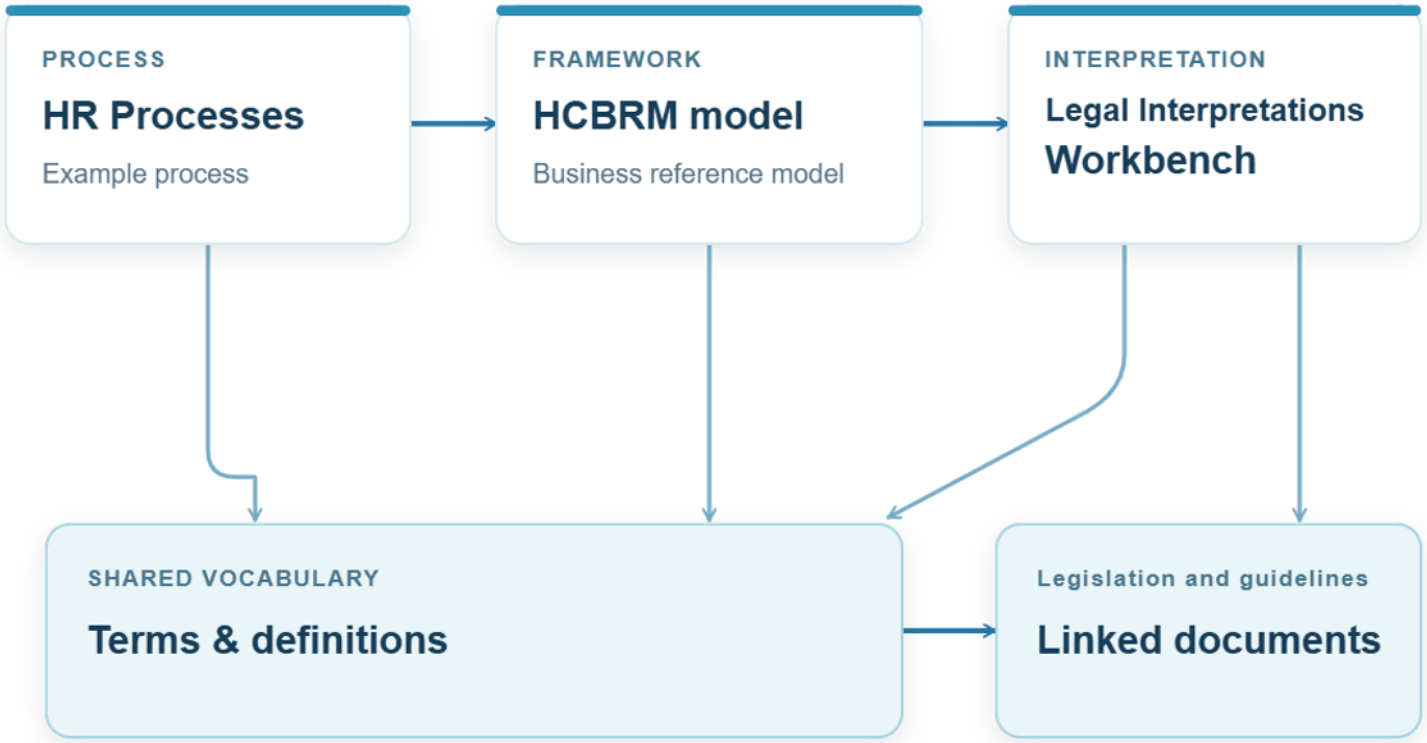

© Be Informed 2026 | All rights reserved worldwide

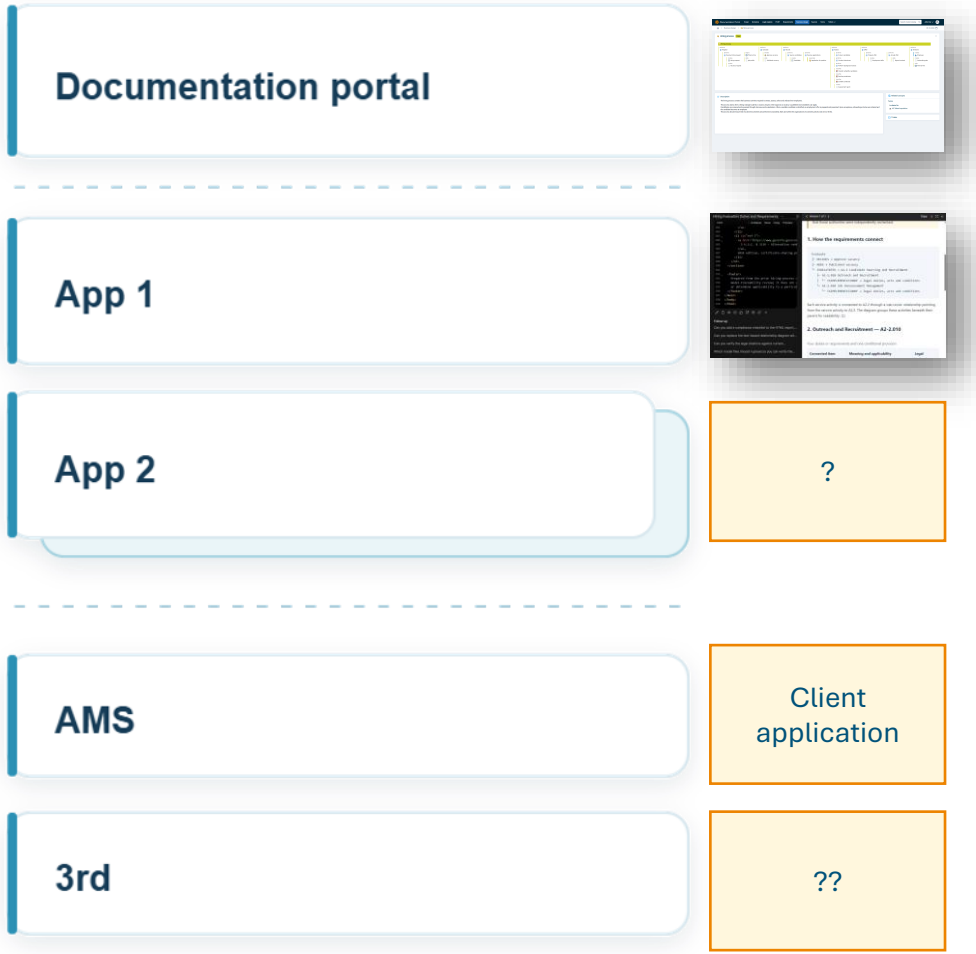





be informed
© Be Informed 2026 | All rights reserved worldwide

# More work



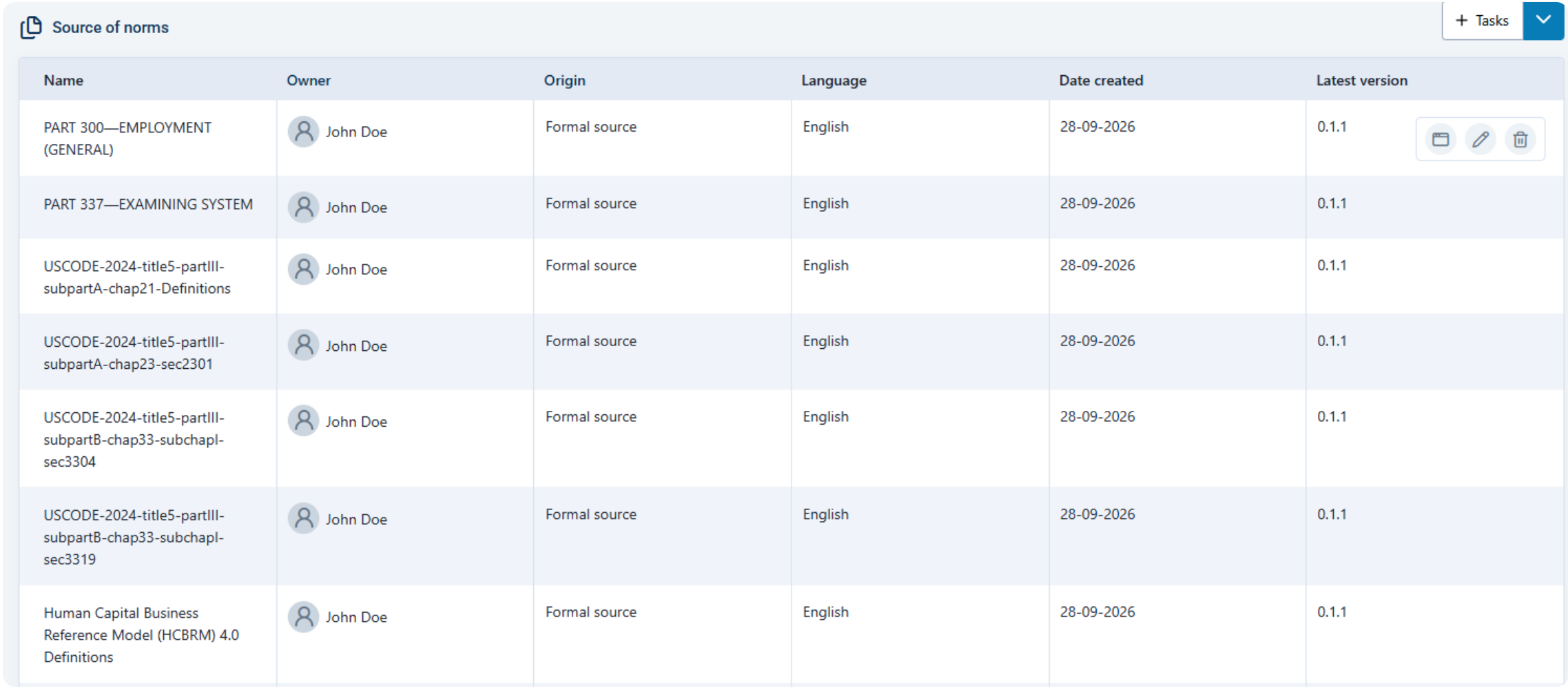




© Be Informed 2026 | All rights reserved worldwide

# The factory: how did we do this

be informed

# Source register




| Name | Owner | Origin | Language | Date created | Latest version |
|---|---|---|---|---|---|
| PART 300—EMPLOYMENT (GENERAL) | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |
| PART 337—EXAMINING SYSTEM | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |
| USCODE-2024-title5-partIII-subpartA-chap21-Definitions | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |
| USCODE-2024-title5-partIII-subpartA-chap23-sec2301 | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |
| USCODE-2024-title5-partIII-subpartB-chap33-subchapI-sec3304 | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |
| USCODE-2024-title5-partIII-subpartB-chap33-subchapI-sec3319 | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |
| Human Capital Business Reference Model (HCBRM) 4.0 Definitions | John Doe | Formal source | English | 28-09-2026 | 0.1.1 |

be informed

© Be Informed 2024 | All rights reserved worldwide

PART 300—EMPLOYMENT (GENERAL)

Overview | Manage versions | Browse versions | Publish versions | History

Sources

Table of contents

- Subpart A—Employment Practices
- Subpart B—Examinations and Related Subjects
- Subpart C—Details of Employees
  - § 300.301 Authority.
- Subpart D—Use of Commercial Recruiting Firms and Nonprofit Employment Services
  - § 300.401 Definitions.
  - § 300.402 Coverage.
  - § 300.403 When commercial recruiting firms and nonprofit employment services may be used.
  - § 300.404 Use of fee-charging firms.
  - **§ 300.405 Requirement for contract.**
  - § 300.406 Agency responsibilities.
  - § 300.407 Documentation.
  - § 300.408 Corrective action.
- Subpart E—Use of Private Sector Temporaries
  - § 300.501 Definitions.
  - § 300.502 Coverage.
  - § 300.503 Conditions for using private sector temporaries.
  - § 300.504 Prohibition on employer-employee relationship.
  - § 300.505 Relationship of civil service procedures.
  - § 300.506 Requirements of procurement.
  - § 300.507 Documentation and oversight.
- Subpart F—Time-In-Grade Restrictions
- Subpart G—Statutory Bar to Appointment of Persons Who Fail To Register Under Selective Service Law
- Supplementary Information

PART 300—EMPLOYMENT (GENERAL)

1. [57 FR 10124, Mar. 24, 1992]

## § 300.403 When commercial recruiting firms and nonprofit employment services may be used.

An agency may use a commercial recruiting firm and/or a nonprofit employment service in recruiting for vacancies when:

The agency head or designee determines that such use is likely to provide well-qualified candidates who would otherwise not be available or that well-qualified candidates are in short supply;

The agency has provided vacancy notices to appropriate State Employment Service and OPM offices; and

The agency continues its own recruiting efforts.

## § 300.404 Use of fee-charging firms.

Federal agencies are prohibited from using commercial recruiting firms and nonprofit employment services which charge fees to individuals referred to Federal positions. Federal agencies may not consider a candidate referred by a commercial recruiting firm or nonprofit employment service if the individual has paid or is expected to pay any fee to the firm or service.

The prohibition in paragraph (a) of this section does not apply to registration fees paid by individuals to nonprofit employment services operated by professional organizations when the registration fee is imposed regardless of whether the registrant is referred for employment or placed.

## § 300.405 Requirement for contract.

A written contract awarded in accordance with procedures stipulated in the Federal Acquisition Regulations is required between the Federal agency and a commercial recruiting firm or nonprofit employment service. The contract will satisfy the "written request" required by 18 U.S.C. 211. That statute prohibits the acceptance of payment for aiding an individual to obtain Federal employment *except* when an employment agency renders services pursuant to the written request of an executive department or agency.

The contract must include the qualifications requirements for the position(s) to be filled and also provide that the firm or service will:

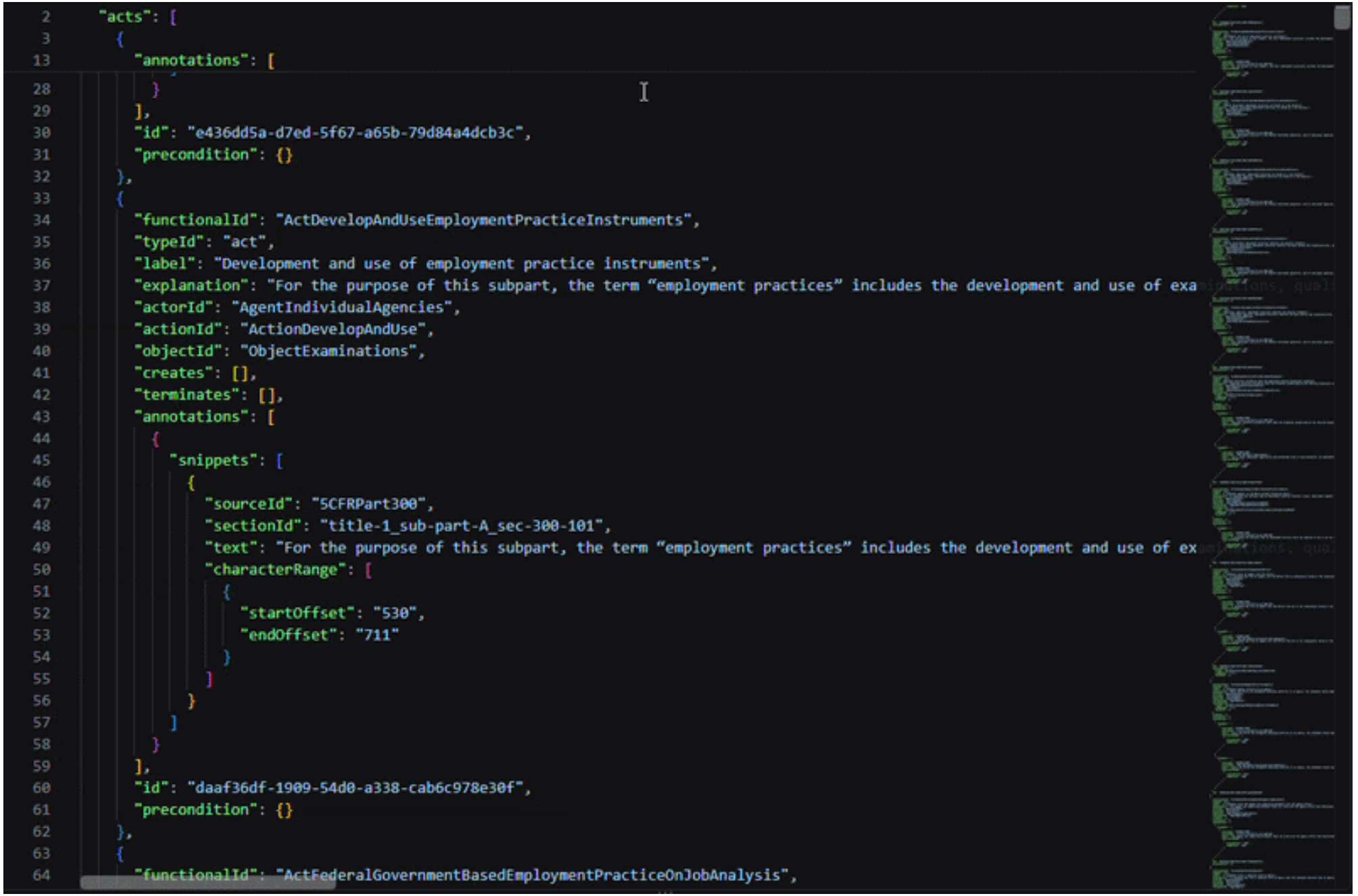
1. Screen candidates only against the basic qualifications requirements for the position(s) specified by the Federal agency in the contract and refer to the agency all candidates who appear to meet those requirements;
2. Refer to the Federal agency only those applicants from whom the firm or service has not accepted fees other than those permitted under § 300.404(b) of this part;
3. Not imply that it is the sole or primary avenue for employment with the Federal Government or a specific Federal agency; and
4. Recruit and refer candidates in accordance with applicable merit principles and equal opportunity laws.

## § 300.406 Agency responsibilities.

Details

| | |
|---|---|
| Title | PART 300—EMPLOYMENT (GENERAL) - v0.1.0 |
| Document Reference | - |
| Source case Id | 88 |
| Document id | 25 |
| DocumentID | /documents/25 |
| Version | 0.1.0 |
| Document version | - |
| Publication date | - |
| Signature date | - |
| Effective date | - |
| Valid document | - |
| Original documentId | - |
| Link to original location | - |
| Flint frames | /documents/56 |
| Terms frames | - |
| Flint metadata | /documents/57 |
| Terms metadata | - |

# AI FLINT

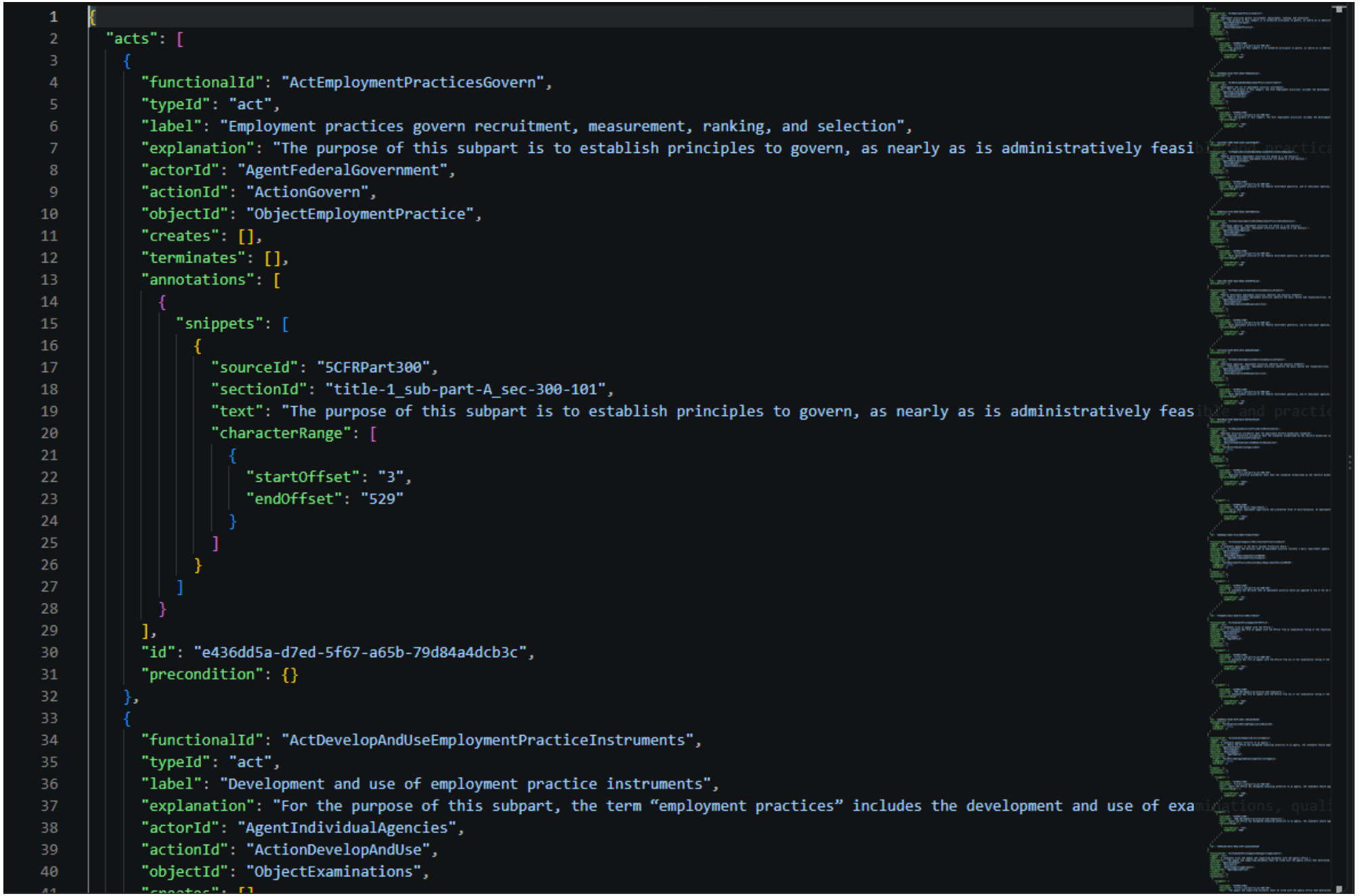


```
"acts": [
  {
    "annotations": [
      }
    ],
    "id": "e436dd5a-d7ed-5f67-a65b-79d84a4dcb3c",
    "precondition": {}
  },
  {
    "functionalId": "ActDevelopAndUseEmploymentPracticeInstruments",
    "typeId": "act",
    "label": "Development and use of employment practice instruments",
    "explanation": "For the purpose of this subpart, the term “employment practices” includes the development and use of exa
    "actorId": "AgentIndividualAgencies",
    "actionId": "ActionDevelopAndUse",
    "objectId": "ObjectExaminations",
    "creates": [],
    "terminates": [],
    "annotations": [
      {
        "snippets": [
          {
            "sourceId": "5CFRPart300",
            "sectionId": "title-1_sub-part-A_sec-300-101",
            "text": "For the purpose of this subpart, the term “employment practices” includes the development and use of ex
            "characterRange": [
              {
                "startOffset": "530",
                "endOffset": "711"
              }
            ]
          }
        ]
      }
    ],
    "id": "daaf36df-1909-54d0-a338-cab6c978e30f",
    "precondition": {}
  },
  {
    "functionalId": "ActFederalGovernmentBasedEmploymentPracticeOnJobAnalysis",
```

be informed

© Be Informed 2024 | All rights reserved worldwide

# AI FLINT



```
{
  "acts": [
    {
      "functionalId": "ActEmploymentPracticesGovern",
      "typeId": "act",
      "label": "Employment practices govern recruitment, measurement, ranking, and selection",
      "explanation": "The purpose of this subpart is to establish principles to govern, as nearly as is administratively feasi
      "actorId": "AgentFederalGovernment",
      "actionId": "ActionGovern",
      "objectId": "ObjectEmploymentPractice",
      "creates": [],
      "terminates": [],
      "annotations": [
        {
          "snippets": [
            {
              "sourceId": "5CFRPart300",
              "sectionId": "title-1_sub-part-A_sec-300-101",
              "text": "The purpose of this subpart is to establish principles to govern, as nearly as is administratively feas
              "characterRange": [
                {
                  "startOffset": "3",
                  "endOffset": "529"
                }
              ]
            }
          ]
        }
      ],
      "id": "e436dd5a-d7ed-5f67-a65b-79d84a4dcb3c",
      "precondition": {}
    },
    {
      "functionalId": "ActDevelopAndUseEmploymentPracticeInstruments",
      "typeId": "act",
      "label": "Development and use of employment practice instruments",
      "explanation": "For the purpose of this subpart, the term “employment practices” includes the development and use of exa
      "actorId": "AgentIndividualAgencies",
      "actionId": "ActionDevelopAndUse",
      "objectId": "ObjectExaminations",
```

be informed

© Be Informed 2024 | All rights reserved worldwide

PART 300—EMPLOYMENT (GENERAL) Sources

employment service if the individual has paid or is expected to pay any fee to the firm or service.

The prohibition in paragraph (a) of this section does not apply to registration fees paid by individuals to nonprofit employment services operated by professional organizations when the registration fee is imposed regardless of whether the registrant is referred for employment or placed.

## § 300.405 Requirement for contract.

A written contract awarded in accordance with procedures stipulated in the Federal Acquisition Regulations is required between the Federal agency and a commercial recruiting firm or nonprofit employment service. The contract will satisfy the "written request" required by 18 U.S.C. 211. That statute prohibits the acceptance of payment for aiding an individual to obtain Federal employment *except* when an employment agency renders services pursuant to the written request of an executive department or agency.

The contract must include the qualifications requirements for the position(s) to be filled and also provide that the firm or service will:

1. Screen candidates only against the basic qualifications requirements for the position(s) specified by the Federal agency in the contract and refer to the agency all candidates who appear to meet those requirements;
2. Refer to the Federal agency only those applicants from whom the firm or service has not accepted fees other than those permitted under § 300.404(b) of this part;
3. Not imply that it is the sole or primary avenue for employment with the Federal Government or a specific Federal agency; and
4. Recruit and refer candidates in accordance with applicable merit principles and equal opportunity laws.

## § 300.406 Agency responsibilities.

The purpose of a commercial recruiting firm or nonprofit employment service is to serve as an additional source of applicants. Once recruited, applicants must be evaluated and appointed through regular civil service employment procedures.

1. For a competitive service position, an individual must be appointed in accordance with the terms of applicable competitive service procedures.
2. For an excepted service position, an individual must be appointed in accordance with the terms of the applicable appointing authority and the requirements set out in part 302 of this chapter.
3. For a Senior Executive Service position filled by career appointment, an individual must be appointed in accordance with the competitive process described in 5 U.S.C. 3393.

Act overview | Conversation | Warnings | History

**screen candidates against basic qualifications and refer those who meet requirements**

### Properties

Update Delete

| | |
|---|---|
| Name | screen candidates against basic qualifications and refer those who meet requirements |
| Explanation | "Screen candidates only against ... and refer ... all candidates who appear to meet those requirements;" |
| State | New |

### Validity periods

Add

No validity periods available

### Action

Update

screen

### Actor

Update

firm or service

### Object

Update

Drag selection to add Object

### Recipient

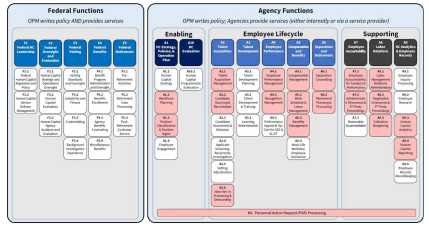
Update

Federal agency

Acts

- request direct-hire authority information submission
- Request proof of registration or exemption to verify registration status
- require written contract
- Resolve conflicts of information concerning registration status prior to appointment
- satisfy written request required by 18 U.S.C. 211
- **screen candidates against basic qualifications and refer those who meet requirements**
- Select an applicant in same occupational series and similar grade level (other appointing official)
- Select an applicant in the highest quality category
- Set examination weights and rating scale
- Share the certificate of eligibles with another appointing authority (only if notice was provided)

# BMS: Capturing the HCBRM framework




A2-1.030 Position Classification.model | A2-1.060 Talent Acquisition System Admi | A2-1.010 Recruitment Strategy Developme | A2.1 Talent Acquisition Management.mod | frames.beimodel.json

**A2.1 Talent Acquisition Management**

**Configuration**

| | |
|---|---|
| Label | A2.1 Talent Acquisition Management |
| Identifier | n597A21TalentAcquisitionManagement |
| Type | Term |

**Relations**

subclass of — A2 Talent Acquisition

**Properties**

**Labels**

**Text fragments**

**Content references**

Reference — Human Capital Business Reference Model (HCBRM) 4.0 Definitions > A2.1 Talent Acquisition Management

Palette

- Example-HCM
- HC-FIBF
- Relation Types
  - see also
  - subclass of

Outline | Progress

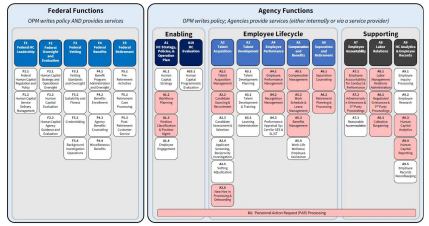
type filter text

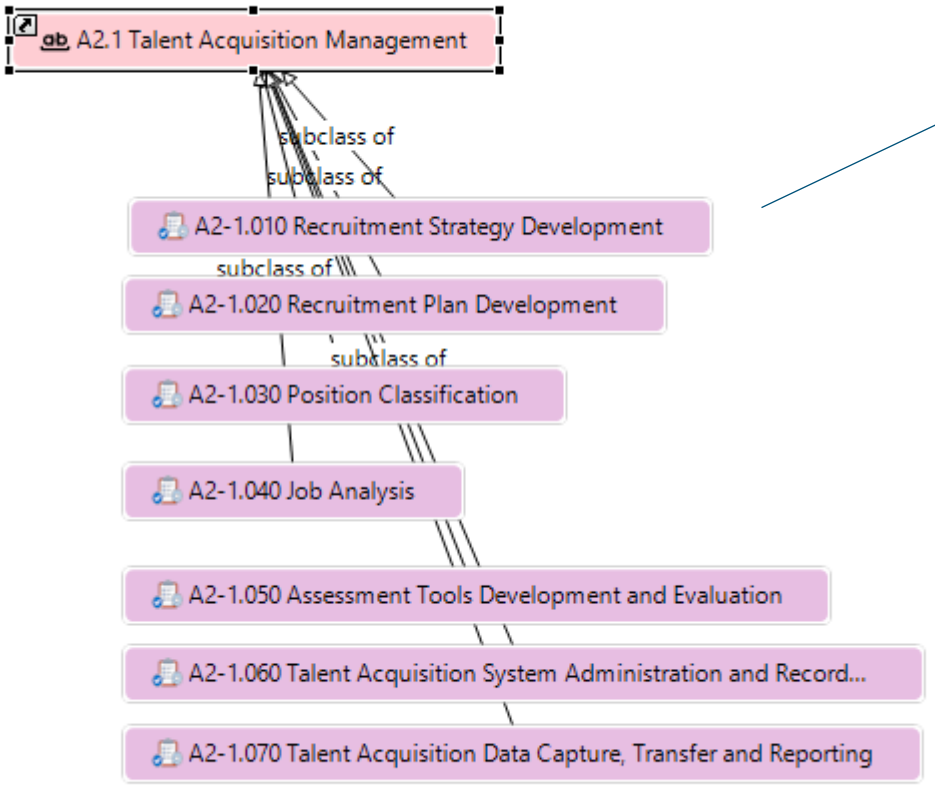
- Term
  - F1 Federal Human Capital Leadership
  - F1.1 Federal Human Capital Regulation and Policy
  - F1.2 Human Capital Service Delivery Management
  - F2.1 Human Capital Strategic and Operational Oversight
  - F2 Federal Oversight and Evaluation
  - F2.2 Human Capital Evaluation
  - F2.3 Human Capital Agency Guidance and Evaluation Development
  - F3 Federal Vetting
    - F3.1 Vetting Standards and Oversight
    - F3.2 Suitability and Fitness
    - F3.3 Credentialing
    - F3.4 Background Investigation Operations
  - F3.1 Vetting Standards and Oversight
  - F3.2 Suitability and Fitness
  - F3.3 Credentialing
  - F3.4 Background Investigation Operations
  - F4 Federal Benefits
    - F4.1 Benefit Program Administration and Oversight
    - F4.2 Benefits Enrollment
    - F4.3 Agency Benefits Counseling
    - F4.4 Miscellaneous Benefits
  - F4.1 Benefit Program Administration and Oversight
  - F4.2 Benefits Enrollment
  - F4.3 Agency Benefits Counseling
  - F4.4 Miscellaneous Benefits
  - F5 Federal Retirement
  - F5.1 Pre-Retirement Activities
  - F5.2 Retirement Case Processing
  - F5.3 Post-Retirement Customer Service
  - Enabling Functions
    - A1 Agency Human Capital Strategy Policies & Operation Plan
    - A10 Agency Human Capital Evaluation
  - A1 Agency Human Capital Strategy Policies & Operation Plan
  - A1.1 Human Capital Strategy
  - A1.2 Workforce Planning
  - A1.3 Position Classification and Position Management
  - A1.4 Employee Engagement
  - A10 Agency Human Capital Evaluation
  - A10.1 Human Capital Programmatic Evaluation
  - Employee Lifecycle Functions
  - A2 Talent Acquisition
  - A3 Talent Development
  - A4 Employee Performance
  - A5 Compensation and Benefits
  - A6 Separation and Retirement
  - A2.1 Talent Acquisition Management
  - A2.2 Candidate Sourcing and Recruitment

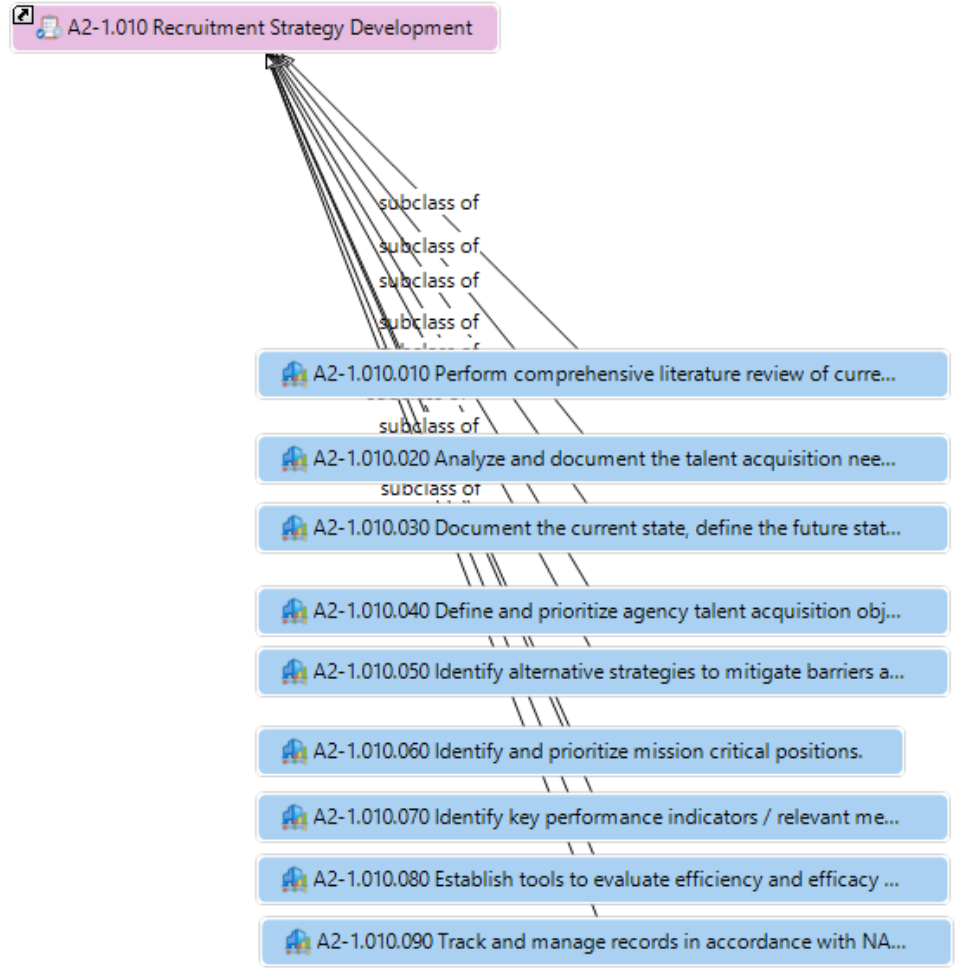
be informed

© Be Informed 2024 | All rights reserved worldwide

# BMS: Linking HCBRM to FLINT



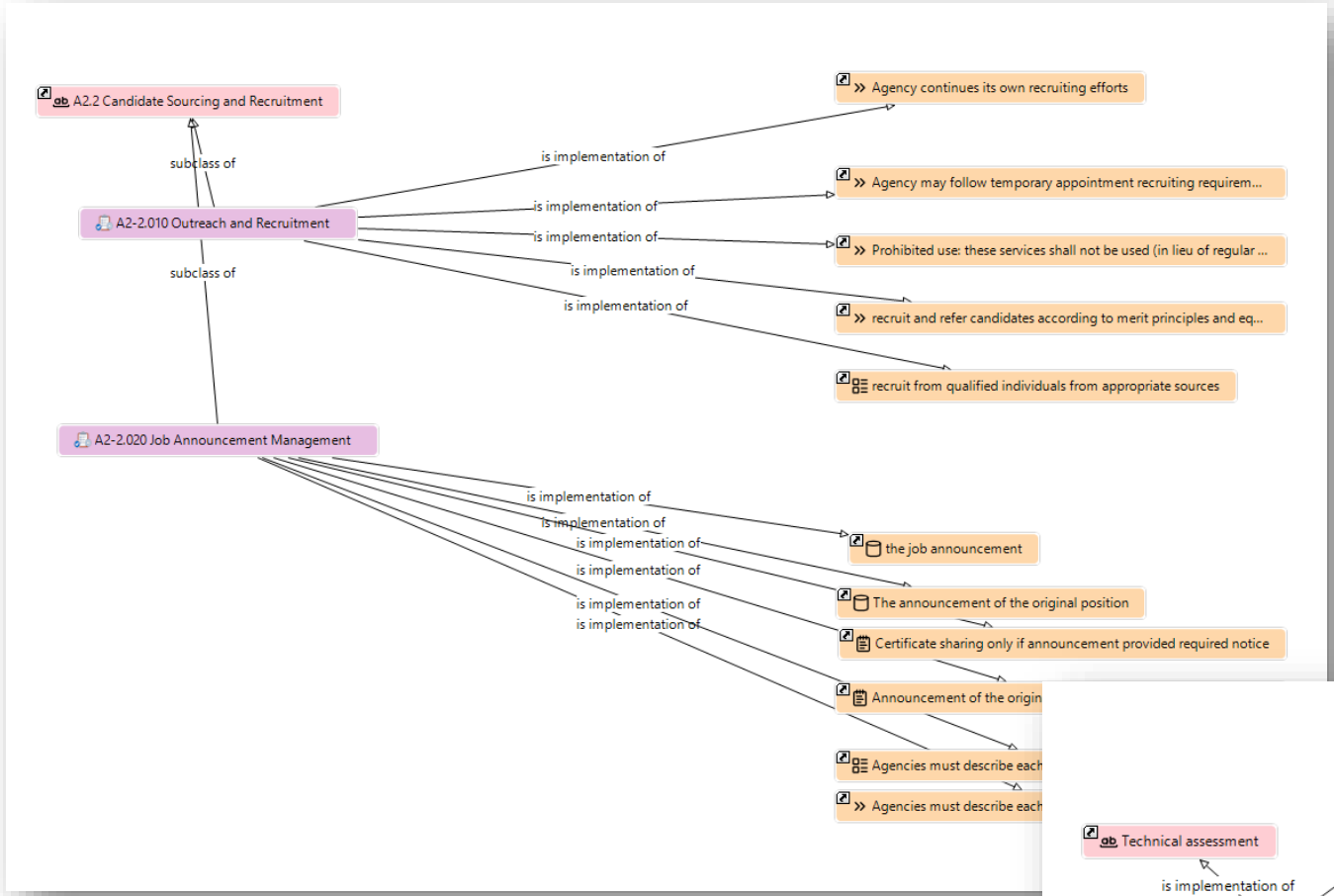


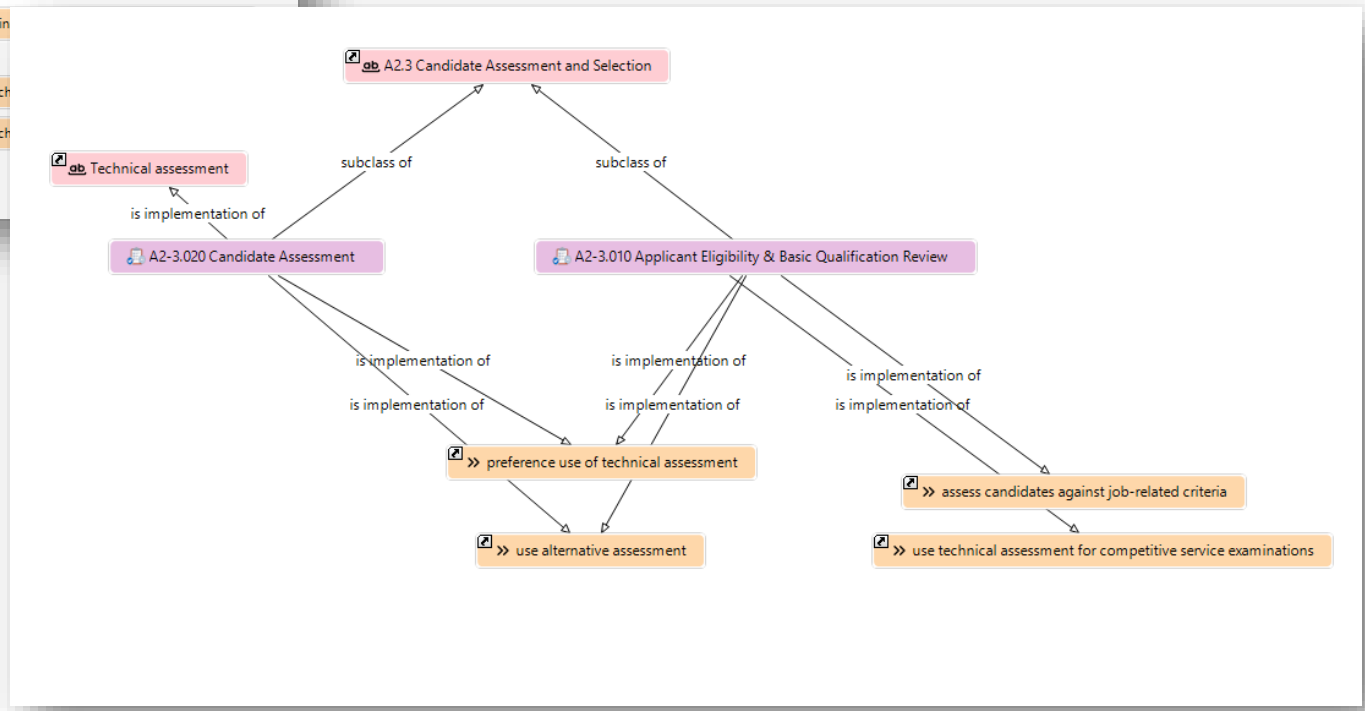




be informed

Service Activity

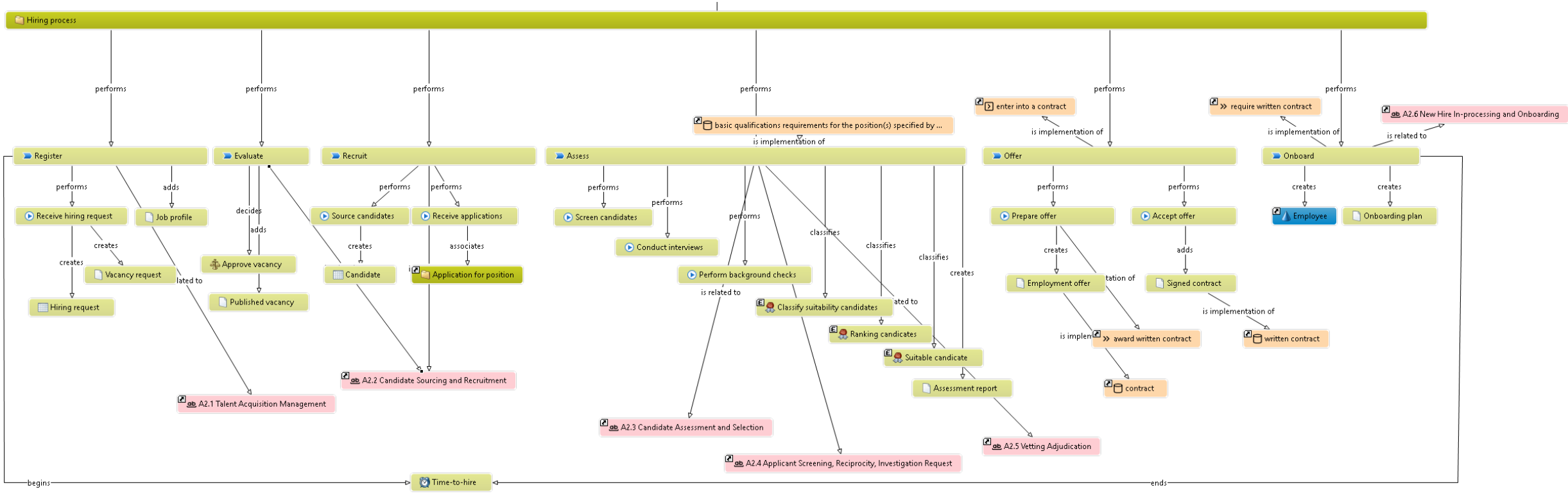
Business Capability


A2.2 Candidate Sourcing and Recruitment
subclass of
A2-2.010 Outreach and Recruitment
subclass of
A2-2.020 Job Announcement Management
is implementation of
Agency continues its own recruiting efforts
is implementation of
Agency may follow temporary appointment recruiting requirem...
is implementation of
Prohibited use: these services shall not be used (in lieu of regular ...
is implementation of
recruit and refer candidates according to merit principles and eq...
is implementation of
recruit from qualified individuals from appropriate sources
is implementation of
the job announcement
is implementation of
The announcement of the original position
is implementation of
Certificate sharing only if announcement provided required notice
is implementation of
Announcement of the origin
is implementation of
Agencies must describe each
is implementation of
Agencies must describe each


A2.3 Candidate Assessment and Selection
Technical assessment
subclass of
subclass of
is implementation of
A2-3.020 Candidate Assessment
A2-3.010 Applicant Eligibility & Basic Qualification Review
is implementation of
is implementation of
is implementation of
is implementation of
is implementation of
is implementation of
preference use of technical assessment
assess candidates against job-related criteria
use alternative assessment
use technical assessment for competitive service examinations

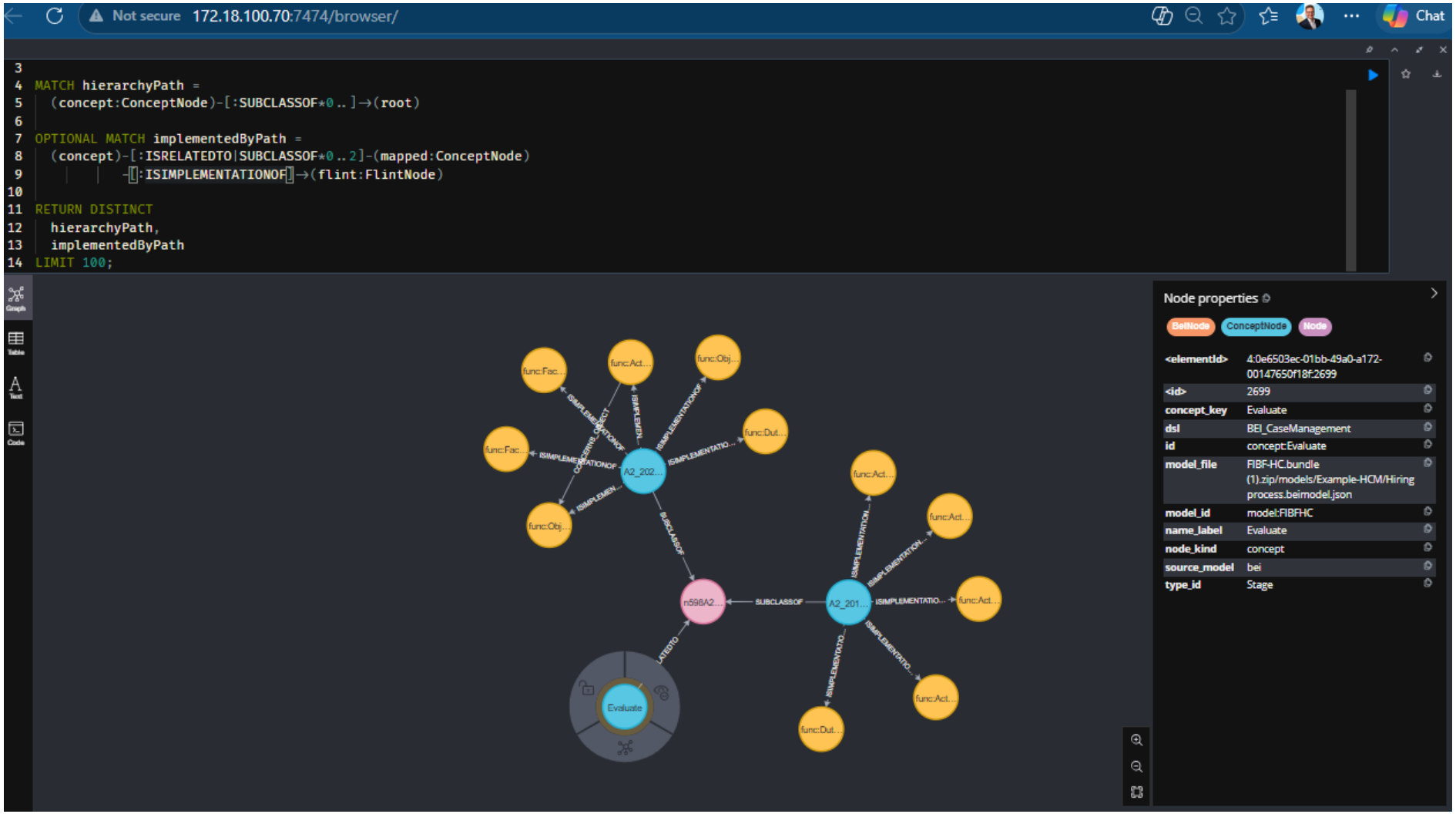
be informed

# BMS: Capturing HR processes




© Be Informed 2024 | All rights reserved worldwide

# Graph database




© Be Informed 2026 | All rights reserved worldwide

# MCP: Model Context Protocol.

## The DRT governs the knowledge. MCP provides the connection to it.

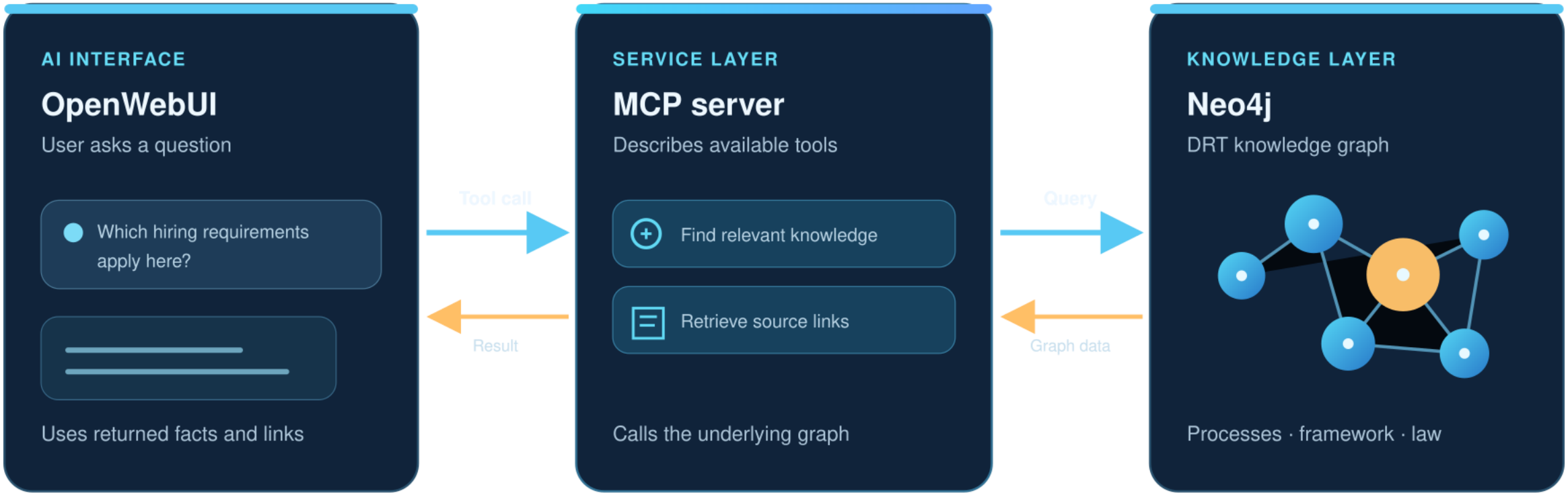
**MCP makes application capabilities available to AI**

- An application exposes selected services as tools and describes:
  - What each tool does and when to use it
  - What information the tool needs
  - What result it returns
- An AI application can discover those tools, call the appropriate one, and use the result in its response

be informed

© Be Informed 2026 | All rights reserved worldwide

# Openwebui

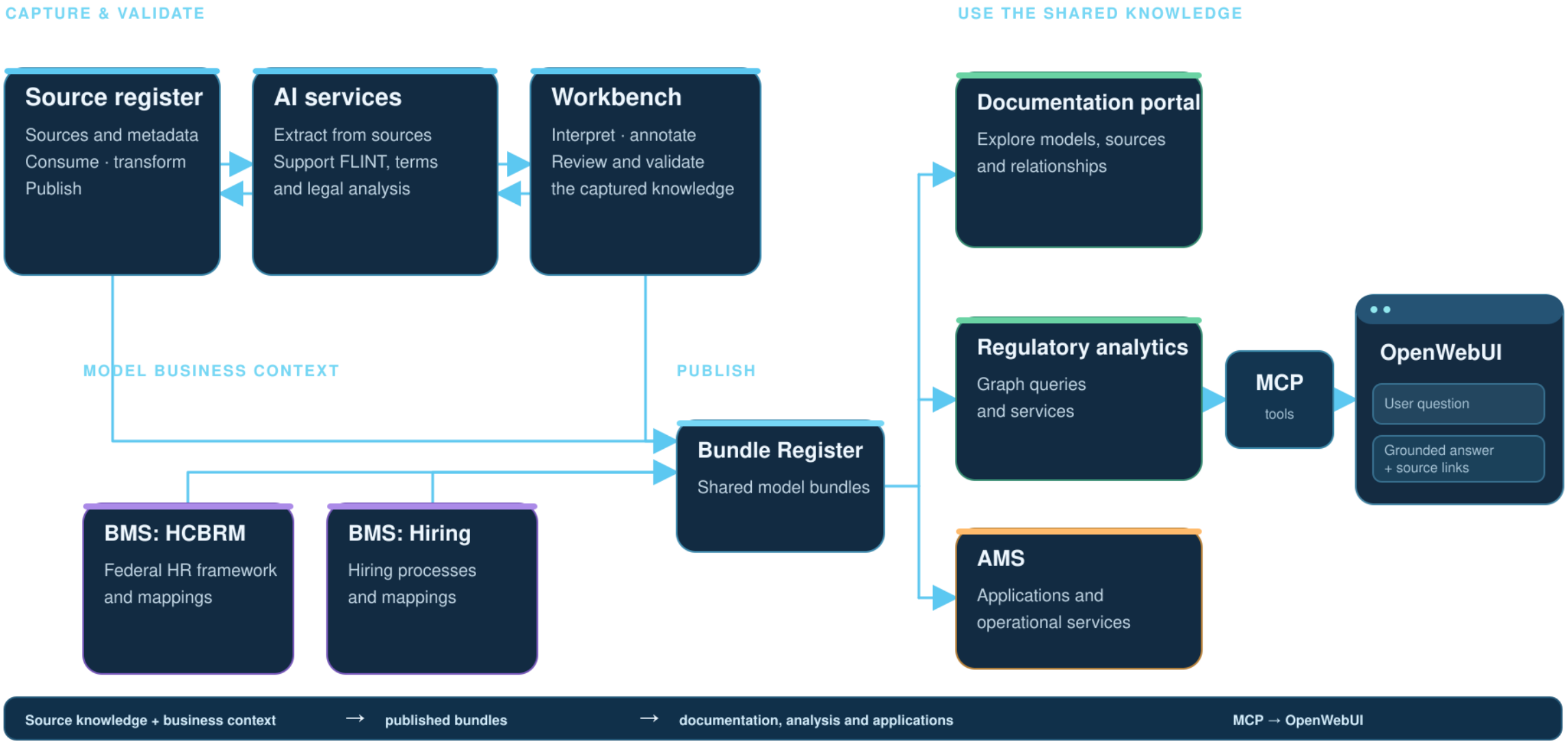



**The graph holds the knowledge. MCP exposes useful tools. OpenWebUI presents the answer.**

be informed

© Be Informed 2026 | All rights reserved worldwide

# Summary




be informed

© Be Informed 2026 | All rights reserved worldwide

# Lessons learned

## Lessons from the Human Capital DRT project

### THE GOOD

We connected a hiring process to HCBRM, legal interpretations and source documents.

The same graph can support exploration and answers with source links.

### THE BAD

AI helps capture knowledge, but experts still have to review its meaning.

Mapping real processes to reference frameworks takes deliberate work.

### THE UGLY

A traceable link does not, by itself, prove compliance.

Keeping sources, mappings and answers current needs lasting ownership.

**Lesson: start with one real workflow, validate each link, then reuse the governed graph.**

be informed

© Be Informed 2024 | All rights reserved worldwide

# Questions & more

## Questions about the DRT?

**How could a Digital Regulatory Twin help in your work?**

Ask me about the model, the build, or how applications use it.

### COMING UP DRT:

**Jasper**

Practical AI use cases
DRT for administrative burden reduction

**Sandip**

DSLs and an AI deep dive
Consistency and trust

be informed

© Be Informed 2026 | All rights reserved worldwide

# Thank you!
# Any questions?

info@beinformed.com
+31 (0)55 368 1420
www.beinformed.com

be informed