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FEA Reference Model Mapping Quick Guide (FY10 Budget Preparation)

August 2008

*Based on the FEA Consolidated Reference Model (CRM) Version 2.3*

To transform the Federal government to one that is

citizen-centered, results-oriented, and market-based,

the Chief Information Officers (CIO) Council and the Office of

Management and Budget (OMB) have developed the Federal

Enterprise Architecture (FEA), a business-based framework

for government-wide improvement.

Overview

The Federal Enterprise Architecture Framework equips OMB and Federal agencies with a common language and framework to describe and analyze investments, enhance collaboration and ultimately transform the Federal government into a citizen-centered, results-oriented, and market-based organization as set forth in the President's Management Agenda (PMA).

The FEA consists of a set of interrelated "reference models" designed to facilitate cross-agency analysis and the identification of duplicative investments, gaps and opportunities for collaboration within and across agencies. Collectively, the reference models comprise a framework for describing important elements of federal agency operations in a common and consistent way. Through the use of this common framework and vocabulary, agency investments can be better managed and leveraged across the federal government.
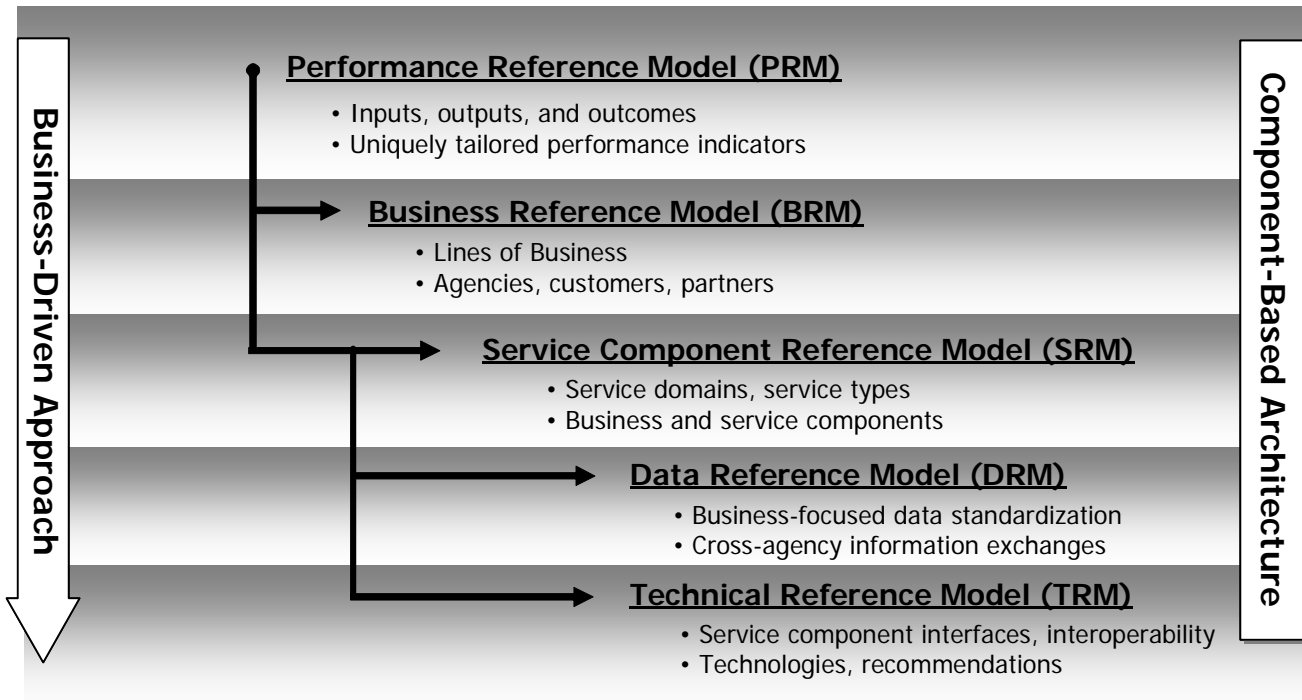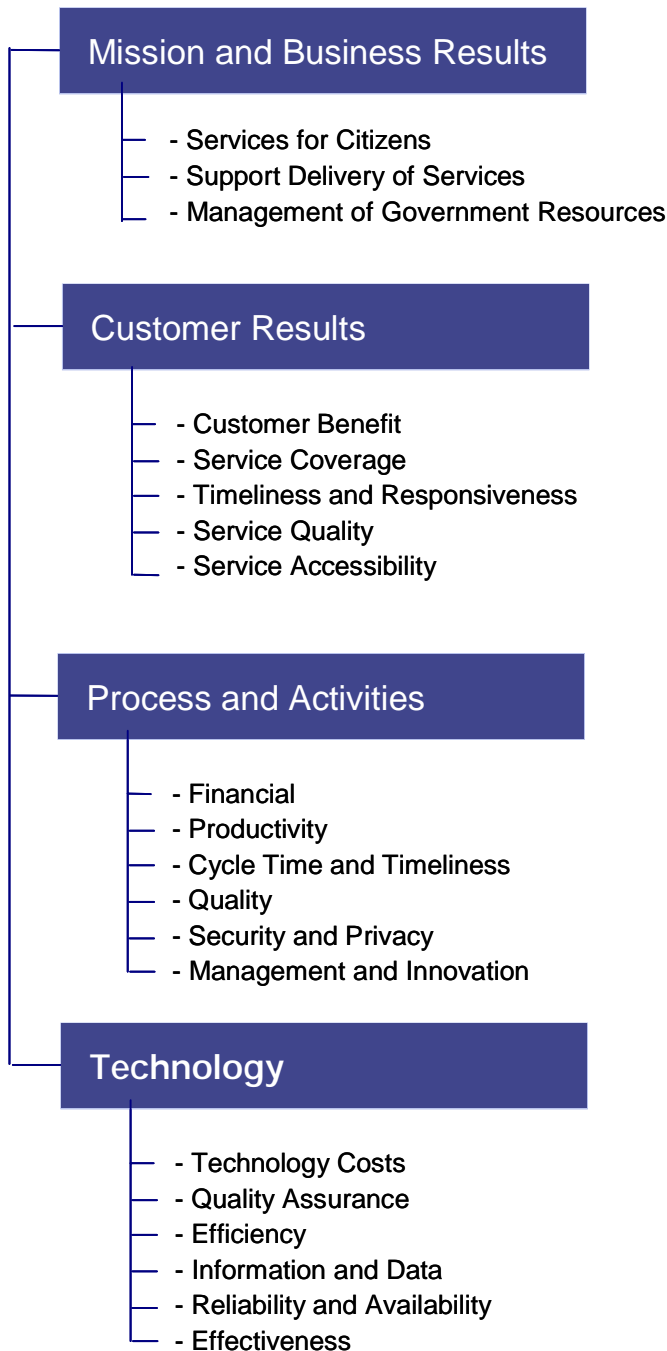

Purpose

The purpose of this guide is to help agencies map their investments to the FEA reference Models, especially for completing the Exhibit 53 and Exhibit 300 in OMB Circular A-11, for the FY10 budget year.

PRM – Measurement Groupings and Indicators

The PRM provides a common language enabling an agency EA to link investments to the agency's ability to achieve agency and program performance objectives.

PRM Measurement Areas and Categories

Mission and Business Results

- Services for Citizens
- Support Delivery of Services
- Management of Government Resources

Customer Results

- Customer Benefit
- Service Coverage
- Timeliness and Responsiveness
- Service Quality
- Service Accessibility

Process and Activities

- Financial
- Productivity
- Cycle Time and Timeliness
- Quality
- Security and Privacy
- Management and Innovation

Technology

- Technology Costs
- Quality Assurance
- Efficiency
- Information and Data
- Reliability and Availability
- Effectiveness

The PRM is structured around Measurement Areas, Measurement Categories, Measurement Groupings, and Measurement Indicators.

Measurement Areas – The high-level organizing framework of the PRM capturing aspects of performance at the output levels. This layer is directly linked to the performance objectives established at the agency and program levels. The PRM for FY10 includes four measurement areas: Mission and Business Results, Customer Results, Processes and Activities, and Technology.

Measurement Categories – Collections within each measurement area describing the attribute or characteristic to be measured.

Measurement Groupings – Further refinement of categories into specific types of measurement indicators. For the Mission and Business Results Measurement Area, these groupings align to the Sub-functions of the BRM.
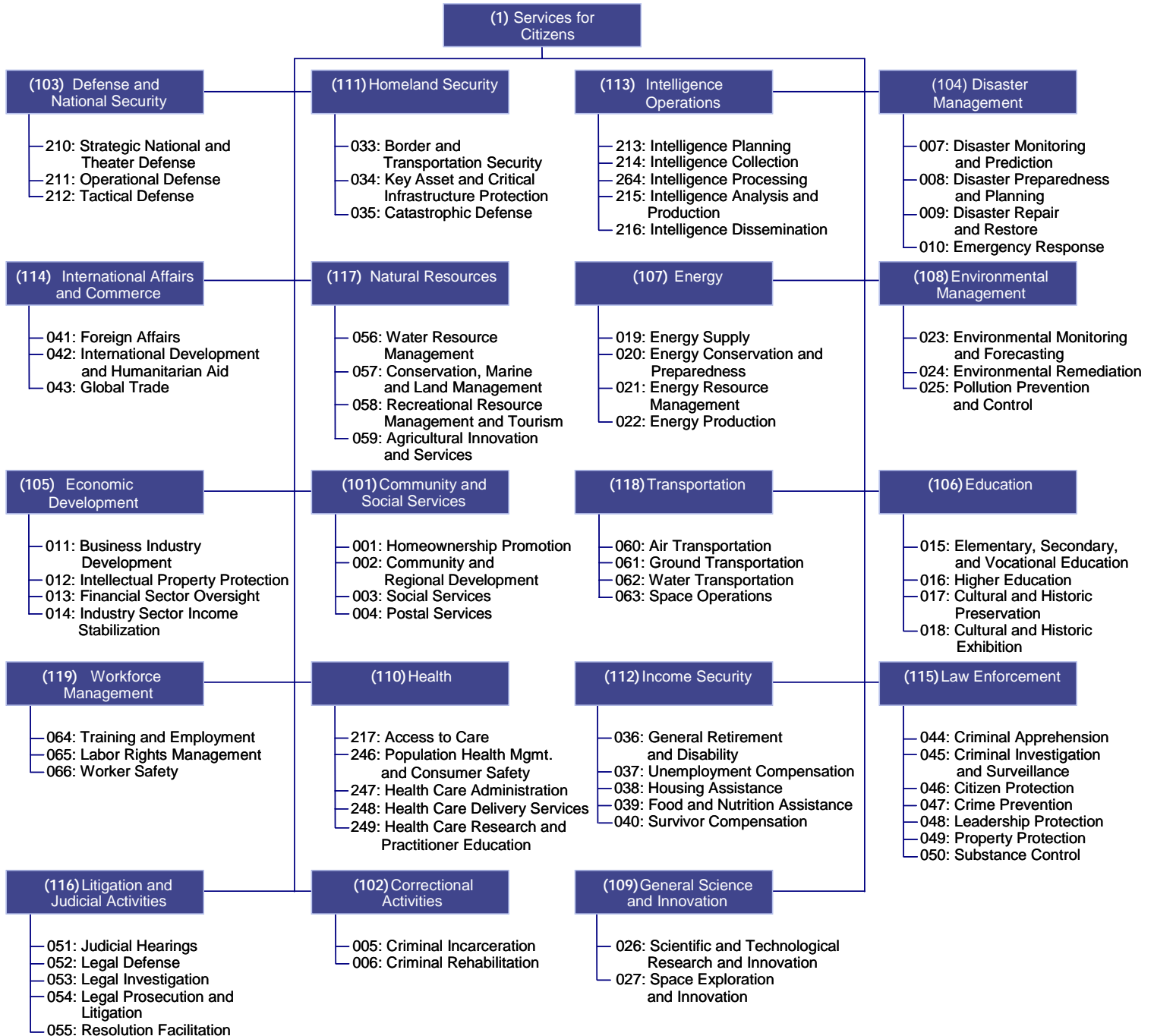
Measurement Indicators – The specific measures, e.g., number and/or percentage of customers satisfied, tailored for a specific BRM Line of Business or Sub-function, agency, program, or IT initiative.

BRM - Lines of Business and Sub-Functions

The BRM provides a framework facilitating a functional (not organizational) view of the federal government's lines of business (LoB's). Following are graphical representations of the BRM by Business Area, with corresponding numeric codes, to help agencies identify BRM mappings to complete the Primary FEA Mapping column of the Exhibit 53 (OMB Circular A-11).
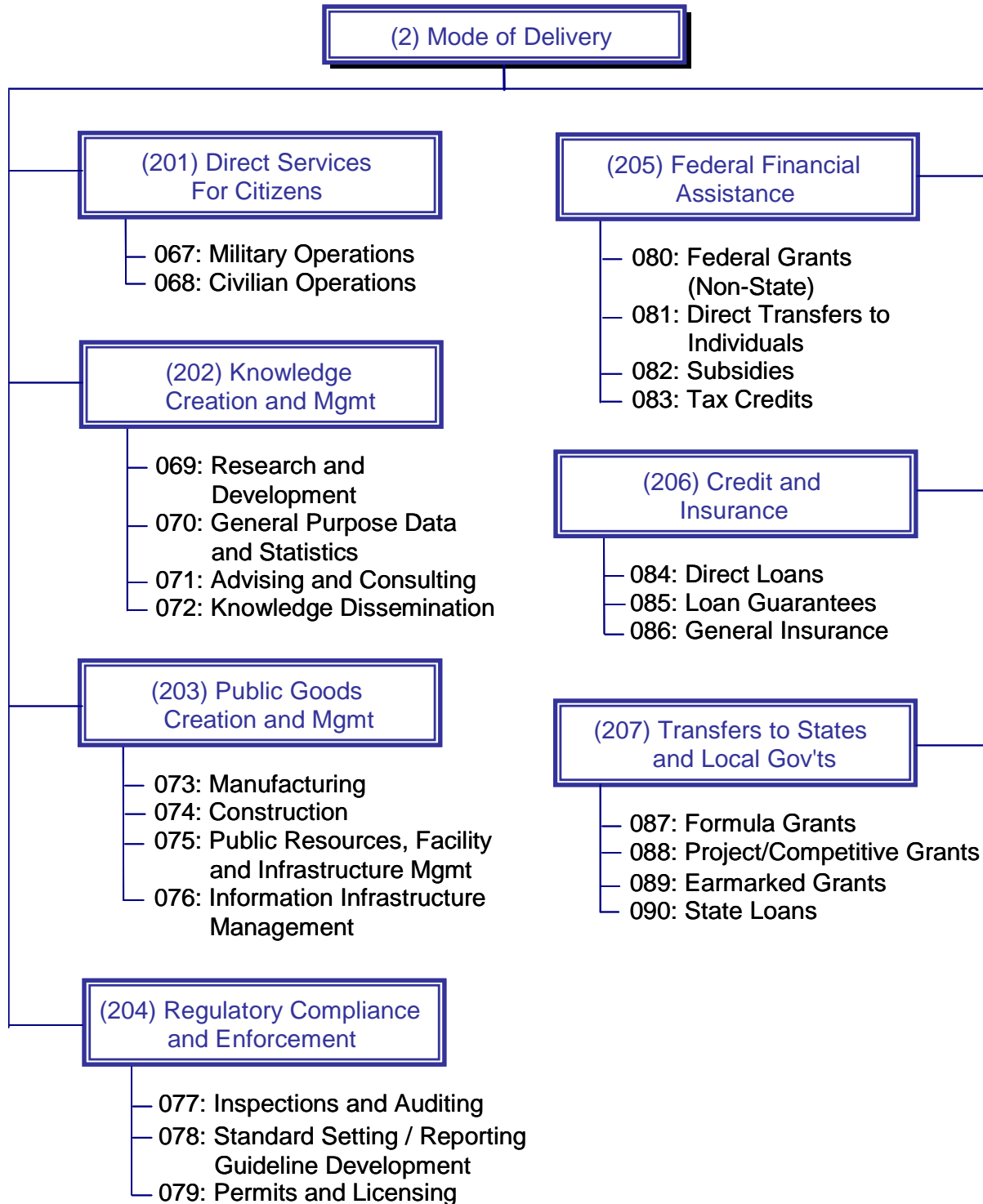
Services for Citizens

The Services for Citizens Business Area describes the mission and purpose of the federal government in terms of the services it provides both to, and on behalf of, the American citizen.

(1) Services for Citizens

(103) Defense and National Security
- 210: Strategic National and Theater Defense
- 211: Operational Defense
- 212: Tactical Defense

(111) Homeland Security
- 033: Border and Transportation Security
- 034: Key Asset and Critical Infrastructure Protection
- 035: Catastrophic Defense

(113) Intelligence Operations
- 213: Intelligence Planning
- 214: Intelligence Collection
- 264: Intelligence Processing
- 215: Intelligence Analysis and Production
- 216: Intelligence Dissemination

(104) Disaster Management
- 007: Disaster Monitoring and Prediction
- 008: Disaster Preparedness and Planning
- 009: Disaster Repair and Restore
- 010: Emergency Response

(114) International Affairs and Commerce
- 041: Foreign Affairs
- 042: International Development and Humanitarian Aid
- 043: Global Trade

(117) Natural Resources
- 056: Water Resource Management
- 057: Conservation, Marine and Land Management
- 058: Recreational Resource Management and Tourism
- 059: Agricultural Innovation and Services

(107) Energy
- 019: Energy Supply
- 020: Energy Conservation and Preparedness
- 021: Energy Resource Management
- 022: Energy Production

(108) Environmental Management
- 023: Environmental Monitoring and Forecasting
- 024: Environmental Remediation
- 025: Pollution Prevention and Control

(105) Economic Development
- 011: Business Industry Development
- 012: Intellectual Property Protection
- 013: Financial Sector Oversight
- 014: Industry Sector Income Stabilization

(101) Community and Social Services
- 001: Homeownership Promotion
- 002: Community and Regional Development
- 003: Social Services
- 004: Postal Services

(118) Transportation
- 060: Air Transportation
- 061: Ground Transportation
- 062: Water Transportation
- 063: Space Operations

(106) Education
- 015: Elementary, Secondary, and Vocational Education
- 016: Higher Education
- 017: Cultural and Historic Preservation
- 018: Cultural and Historic Exhibition

(119) Workforce Management
- 064: Training and Employment
- 065: Labor Rights Management
- 066: Worker Safety

(110) Health
- 217: Access to Care
- 246: Population Health Mgmt. and Consumer Safety
- 247: Health Care Administration
- 248: Health Care Delivery Services
- 249: Health Care Research and Practitioner Education

(112) Income Security
- 036: General Retirement and Disability
- 037: Unemployment Compensation
- 038: Housing Assistance
- 039: Food and Nutrition Assistance
- 040: Survivor Compensation

(115) Law Enforcement
- 044: Criminal Apprehension
- 045: Criminal Investigation and Surveillance
- 046: Citizen Protection
- 047: Crime Prevention
- 048: Leadership Protection
- 049: Property Protection
- 050: Substance Control

(116) Litigation and Judicial Activities
- 051: Judicial Hearings
- 052: Legal Defense
- 053: Legal Investigation
- 054: Legal Prosecution and Litigation
- 055: Resolution Facilitation

(102) Correctional Activities
- 005: Criminal Incarceration
- 006: Criminal Rehabilitation

(109) General Science and Innovation
- 026: Scientific and Technological Research and Innovation
- 027: Space Exploration and Innovation

Mode of Delivery

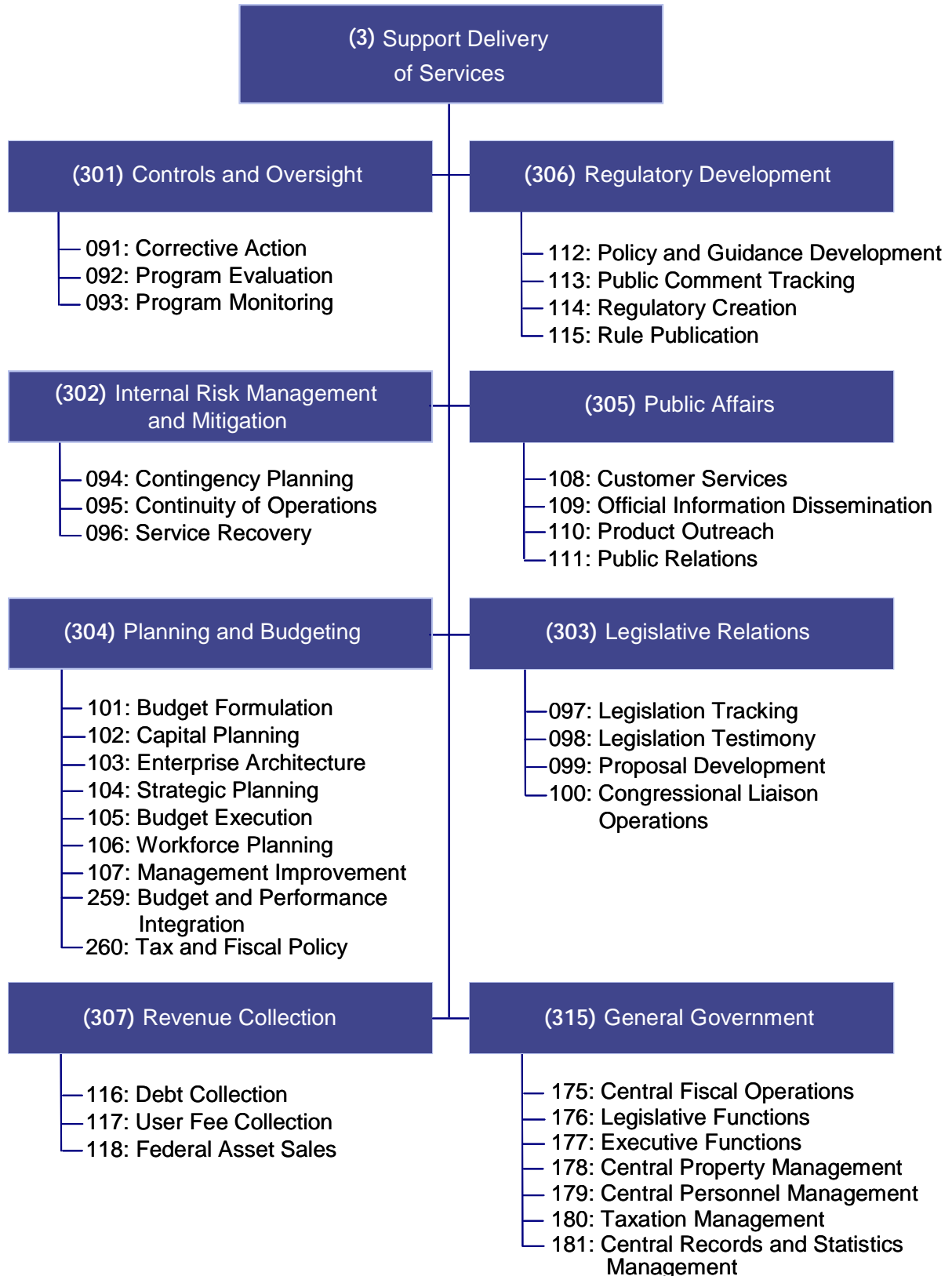The Mode of Delivery Business Area represents the vehicle the federal government utilizes to deliver its Services to Citizens.

(2) Mode of Delivery

(201) Direct Services For Citizens
- 067: Military Operations
- 068: Civilian Operations

(202) Knowledge Creation and Mgmt
- 069: Research and Development
- 070: General Purpose Data and Statistics
- 071: Advising and Consulting
- 072: Knowledge Dissemination

(203) Public Goods Creation and Mgmt
- 073: Manufacturing
- 074: Construction
- 075: Public Resources, Facility and Infrastructure Mgmt
- 076: Information Infrastructure Management

(204) Regulatory Compliance and Enforcement
- 077: Inspections and Auditing
- 078: Standard Setting / Reporting Guideline Development
- 079: Permits and Licensing

(205) Federal Financial Assistance
- 080: Federal Grants (Non-State)
- 081: Direct Transfers to Individuals
- 082: Subsidies
- 083: Tax Credits

(206) Credit and Insurance
- 084: Direct Loans
- 085: Loan Guarantees
- 086: General Insurance

(207) Transfers to States and Local Gov'ts
- 087: Formula Grants
- 088: Project/Competitive Grants
- 089: Earmarked Grants
- 090: State Loans

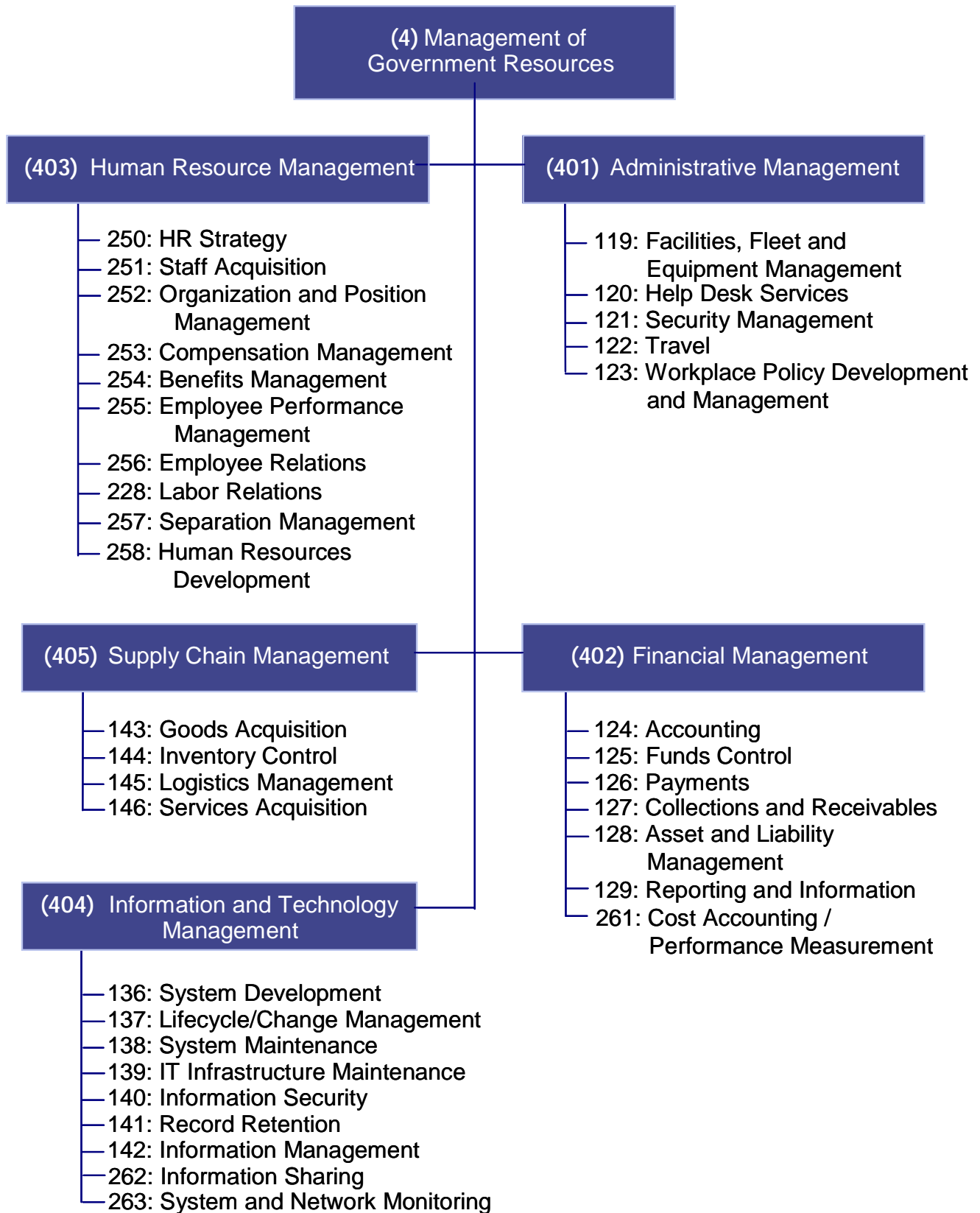*Note:* "Mode of Delivery" LoBs and Sub-functions are *not* valid as a primary FEA mapping on the Exhibit 53.

Support Delivery of Services

Support Delivery of Services Business Area provides the critical policy, programmatic and managerial foundation to support federal government operations.

(3) Support Delivery of Services

(301) Controls and Oversight
- 091: Corrective Action
- 092: Program Evaluation
- 093: Program Monitoring

(306) Regulatory Development
- 112: Policy and Guidance Development
- 113: Public Comment Tracking
- 114: Regulatory Creation
- 115: Rule Publication

(302) Internal Risk Management and Mitigation
- 094: Contingency Planning
- 095: Continuity of Operations
- 096: Service Recovery

(305) Public Affairs
- 108: Customer Services
- 109: Official Information Dissemination
- 110: Product Outreach
- 111: Public Relations

(304) Planning and Budgeting
- 101: Budget Formulation
- 102: Capital Planning
- 103: Enterprise Architecture
- 104: Strategic Planning
- 105: Budget Execution
- 106: Workforce Planning
- 107: Management Improvement
- 259: Budget and Performance Integration
- 260: Tax and Fiscal Policy

(303) Legislative Relations
- 097: Legislation Tracking
- 098: Legislation Testimony
- 099: Proposal Development
- 100: Congressional Liaison Operations

(307) Revenue Collection
- 116: Debt Collection
- 117: User Fee Collection
- 118: Federal Asset Sales

(315) General Government
- 175: Central Fiscal Operations
- 176: Legislative Functions
- 177: Executive Functions
- 178: Central Property Management
- 179: Central Personnel Management
- 180: Taxation Management
- 181: Central Records and Statistics Management

Management of Government Resources

Management of Government Resources Business Area refers to the support activities enabling the government to operate effectively and efficiently.

(4) Management of Government Resources

(403) Human Resource Management

- 250: HR Strategy
- 251: Staff Acquisition
- 252: Organization and Position Management
- 253: Compensation Management
- 254: Benefits Management
- 255: Employee Performance Management
- 256: Employee Relations
- 228: Labor Relations
- 257: Separation Management
- 258: Human Resources Development

(401) Administrative Management

- 119: Facilities, Fleet and Equipment Management
- 120: Help Desk Services
- 121: Security Management
- 122: Travel
- 123: Workplace Policy Development and Management

(405) Supply Chain Management

- 143: Goods Acquisition
- 144: Inventory Control
- 145: Logistics Management
- 146: Services Acquisition

(402) Financial Management

- 124: Accounting
- 125: Funds Control
- 126: Payments
- 127: Collections and Receivables
- 128: Asset and Liability Management
- 129: Reporting and Information
- 261: Cost Accounting / Performance Measurement

(404) Information and Technology Management

- 136: System Development
- 137: Lifecycle/Change Management
- 138: System Maintenance
- 139: IT Infrastructure Maintenance
- 140: Information Security
- 141: Record Retention
- 142: Information Management
- 262: Information Sharing
- 263: System and Network Monitoring

SRM - Service Types and Components

The SRM provides a framework classifying Service Components according to the capabilities they provide to business functions. Following are graphical representations of the SRM by Service Domain to help agencies identify SRM mappings to complete the Primary FEA Mapping column of the Exhibit 53 (OMB Circular A-11) and the Enterprise Architecture section of the Exhibit 300.

SRM Service Types and Service Components can be used as the primary FEA mapping for an investment on the Exhibit 53. This allows investments providing cross-cutting services for multiple Lines of Business or Sub-Functions to be able to reflect the service they provide versus alignment to a specific BRM Line of Business and Sub-function.

Agencies can use the following codes in the Service Component column to indicate if an investment provides multiple service components within a service type:

- 500 – Delivers all service components within the service type
- 501 – Delivers more than one service component within the service type.

Customer Services

The Customer Services Domain defines the set of capabilities directly related to an internal or external customer, the business's interaction with the customer, and the customer-driven activities or functions.

Customer Services

(701) Customer Relationship Management
- 510: Call Center Management
- 511: Customer Analytics
- 512: Sales and Marketing
- 513: Product Management
- 514: Brand Management
- 515: Customer / Account Management
- 516: Contact and Profile Management
- 517: Partner Relationship Management
- 518: Customer Feedback
- 519: Surveys

(702) Customer Preferences
- 520: Personalization
- 521: Subscriptions
- 522: Alerts and Notifications

(703) Customer Initiated Assistance
- 523: Online Help
- 524: Online Tutorials
- 525: Self-Service
- 526: Reservations / Registration
- 527: Multi-Lingual Support
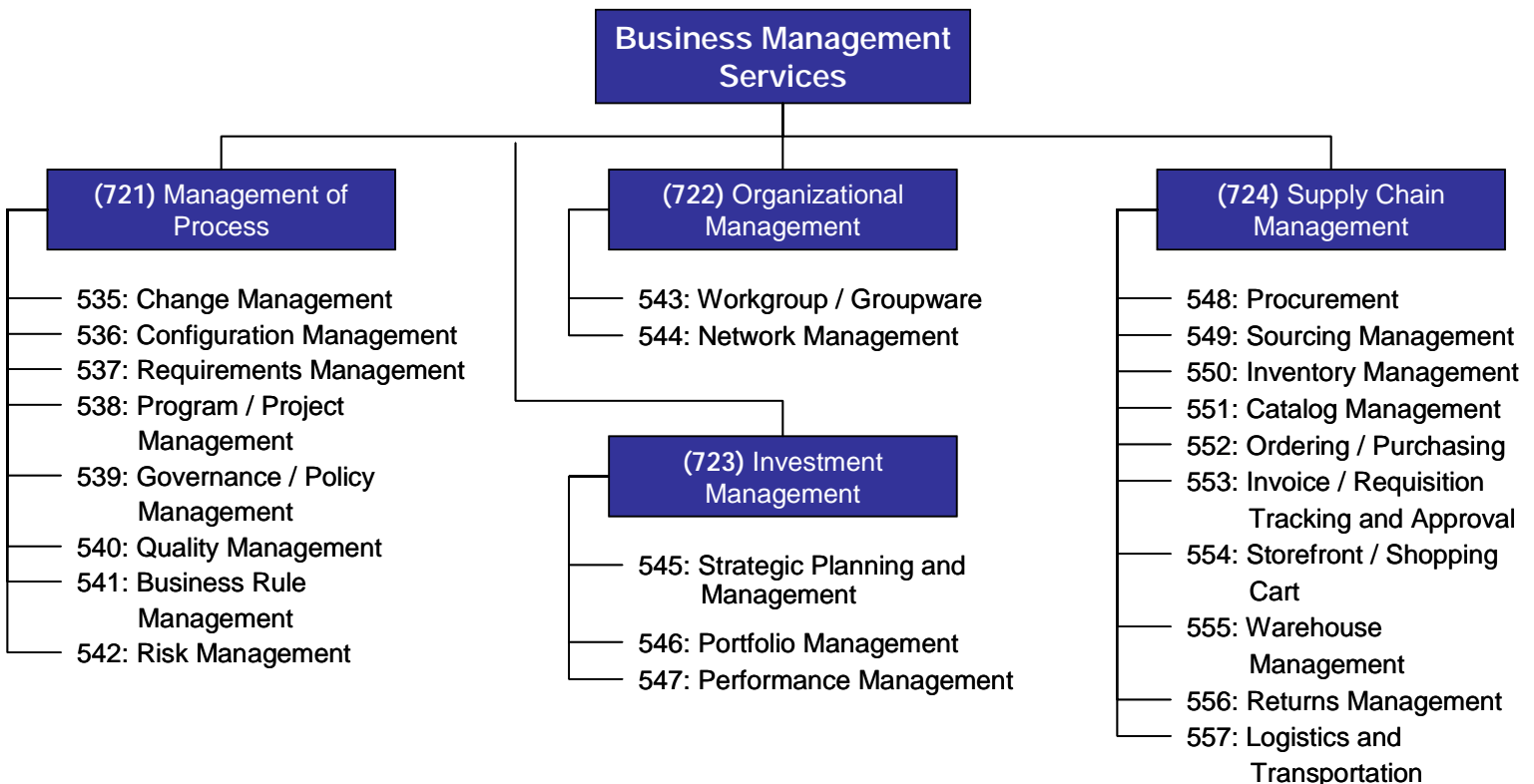- 528: Assistance Request
- 529: Scheduling

Process Automation Services

The Process Automation Services Domain defines the set of capabilities supporting the automation of process and management activities to assist in effectively managing the business.
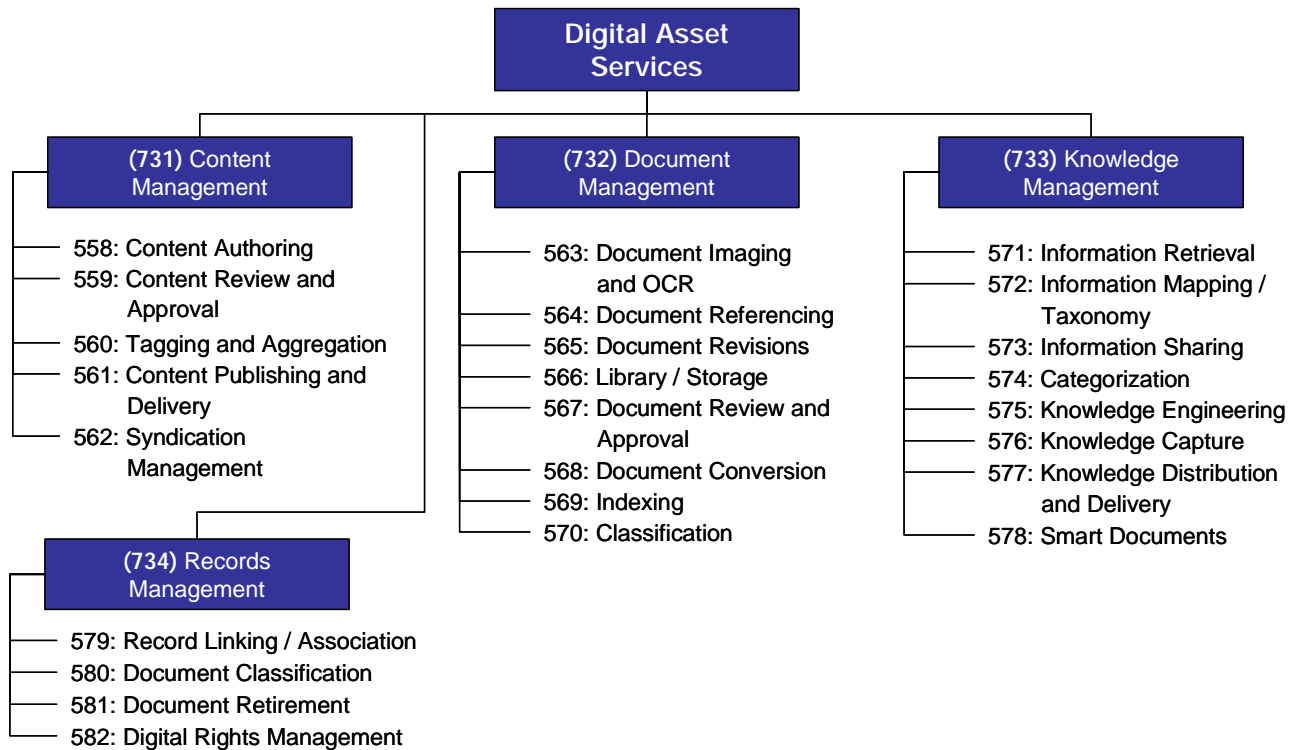
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                    ┌─────────────────────────┐
                    │   Process Automation    │
                    │        Services         │
                    └─────────────────────────┘
            ┌───────────────┴───────────────┐
┌───────────────────────────┐   ┌───────────────────────────┐
│ (711) Tracking and Workflow│   │(712) Routing and Scheduling│
└───────────────────────────┘   └───────────────────────────┘
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(711) Tracking and Workflow
- 530: Process Tracking
- 531: Case Management
- 532: Conflict Resolution

(712) Routing and Scheduling
- 533: Inbound Correspondence Management
- 534: Outbound Correspondence Management
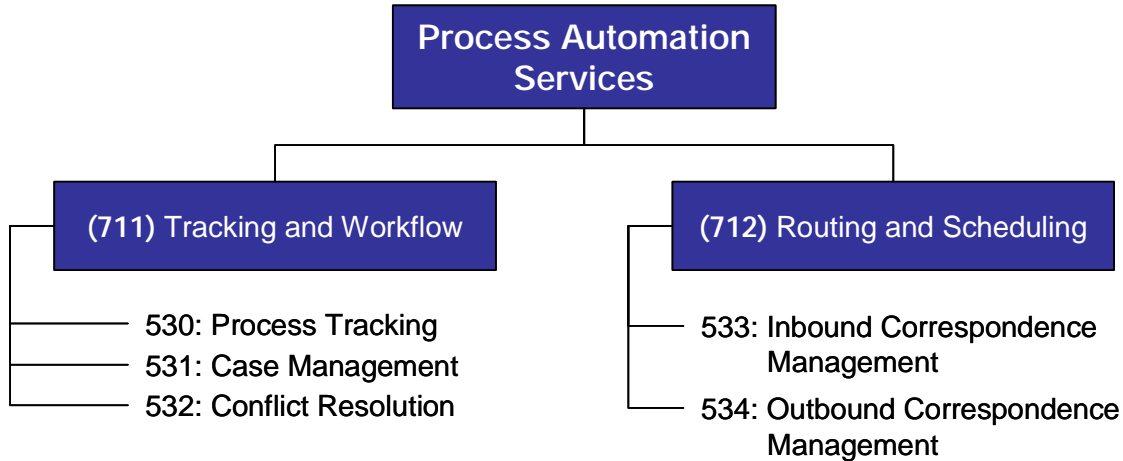
Business Management Services

The Business Management Services Domain represents those capabilities and services necessary for projects, programs and planning to be successfully managed within a business operation.
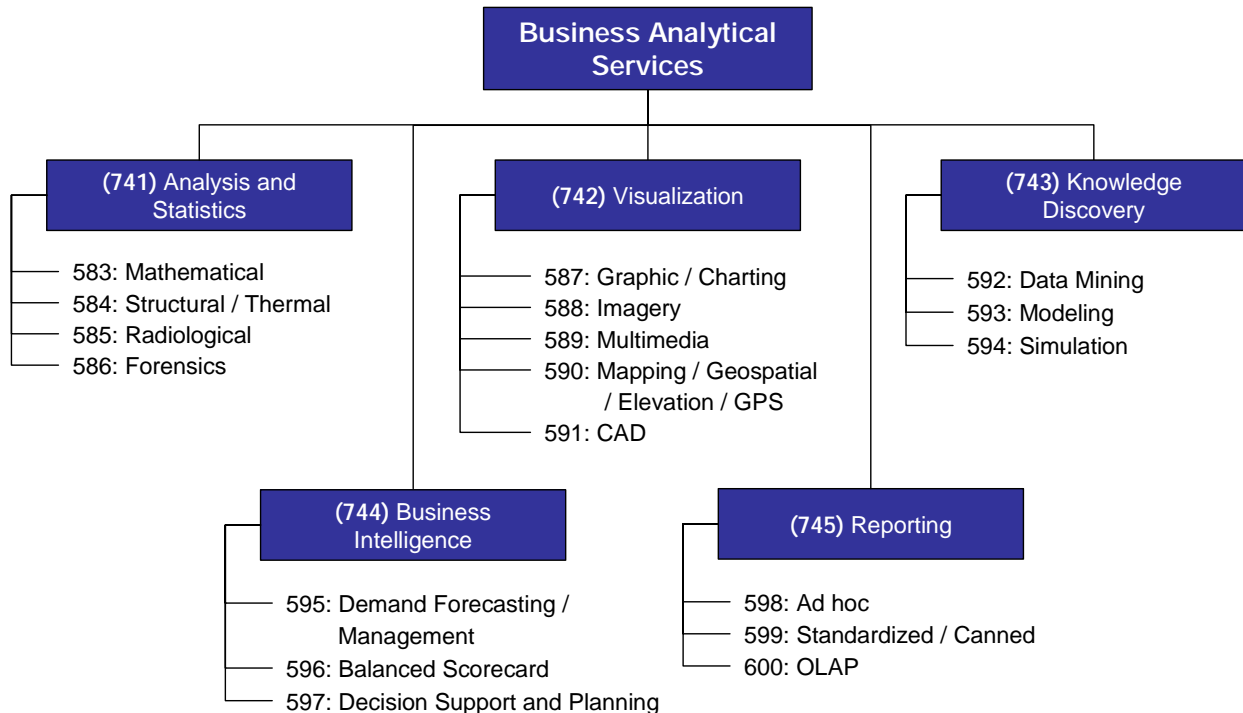
Business Management Services

(721) Management of Process
- 535: Change Management
- 536: Configuration Management
- 537: Requirements Management
- 538: Program / Project Management
- 539: Governance / Policy Management
- 540: Quality Management
- 541: Business Rule Management
- 542: Risk Management

(722) Organizational Management
- 543: Workgroup / Groupware
- 544: Network Management

(723) Investment Management
- 545: Strategic Planning and Management
- 546: Portfolio Management
- 547: Performance Management

(724) Supply Chain Management
- 548: Procurement
- 549: Sourcing Management
- 550: Inventory Management
- 551: Catalog Management
- 552: Ordering / Purchasing
- 553: Invoice / Requisition Tracking and Approval
- 554: Storefront / Shopping Cart
- 555: Warehouse Management
- 556: Returns Management
- 557: Logistics and Transportation

Digital Asset Services

The Digital Asset Services Domain defines the set of capabilities supporting the generation, management, and distribution of intellectual capital and electronic media across the business and extended enterprise.
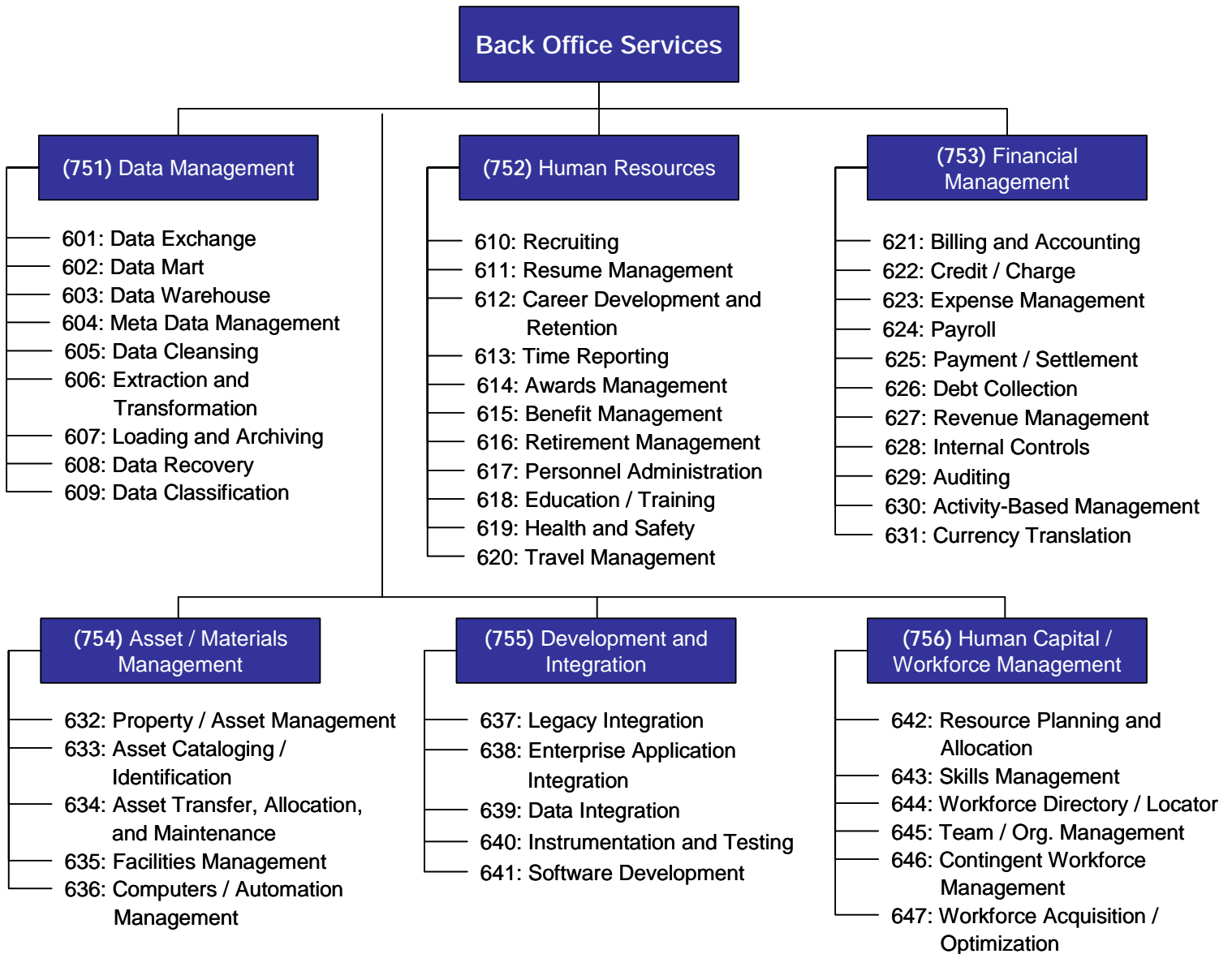
Digital Asset Services

(731) Content Management
- 558: Content Authoring
- 559: Content Review and Approval
- 560: Tagging and Aggregation
- 561: Content Publishing and Delivery
- 562: Syndication Management

(732) Document Management
- 563: Document Imaging and OCR
- 564: Document Referencing
- 565: Document Revisions
- 566: Library / Storage
- 567: Document Review and Approval
- 568: Document Conversion
- 569: Indexing
- 570: Classification

(733) Knowledge Management
- 571: Information Retrieval
- 572: Information Mapping / Taxonomy
- 573: Information Sharing
- 574: Categorization
- 575: Knowledge Engineering
- 576: Knowledge Capture
- 577: Knowledge Distribution and Delivery
- 578: Smart Documents

(734) Records Management
- 579: Record Linking / Association
- 580: Document Classification
- 581: Document Retirement
- 582: Digital Rights Management

Business Analytical Services

The Business Analytical Services Domain defines the set of capabilities supporting the extraction, aggregation, and presentation of information to facilitate decision analysis and business evaluation.

Business Analytical Services

(741) Analysis and Statistics
- 583: Mathematical
- 584: Structural / Thermal
- 585: Radiological
- 586: Forensics

(742) Visualization
- 587: Graphic / Charting
- 588: Imagery
- 589: Multimedia
- 590: Mapping / Geospatial / Elevation / GPS
- 591: CAD

(743) Knowledge Discovery
- 592: Data Mining
- 593: Modeling
- 594: Simulation

(744) Business Intelligence
- 595: Demand Forecasting / Management
- 596: Balanced Scorecard
- 597: Decision Support and Planning

(745) Reporting
- 598: Ad hoc
- 599: Standardized / Canned
- 600: OLAP

Back Office Services

The Back Office Services Domain defines the set of capabilities supporting the management of enterprise planning and transactional-based functions.

Back Office Services

(751) Data Management
- 601: Data Exchange
- 602: Data Mart
- 603: Data Warehouse
- 604: Meta Data Management
- 605: Data Cleansing
- 606: Extraction and Transformation
- 607: Loading and Archiving
- 608: Data Recovery
- 609: Data Classification

(752) Human Resources
- 610: Recruiting
- 611: Resume Management
- 612: Career Development and Retention
- 613: Time Reporting
- 614: Awards Management
- 615: Benefit Management
- 616: Retirement Management
- 617: Personnel Administration
- 618: Education / Training
- 619: Health and Safety
- 620: Travel Management

(753) Financial Management
- 621: Billing and Accounting
- 622: Credit / Charge
- 623: Expense Management
- 624: Payroll
- 625: Payment / Settlement
- 626: Debt Collection
- 627: Revenue Management
- 628: Internal Controls
- 629: Auditing
- 630: Activity-Based Management
- 631: Currency Translation

(754) Asset / Materials Management
- 632: Property / Asset Management
- 633: Asset Cataloging / Identification
- 634: Asset Transfer, Allocation, and Maintenance
- 635: Facilities Management
- 636: Computers / Automation Management

(755) Development and Integration
- 637: Legacy Integration
- 638: Enterprise Application Integration
- 639: Data Integration
- 640: Instrumentation and Testing
- 641: Software Development

(756) Human Capital / Workforce Management
- 642: Resource Planning and Allocation
- 643: Skills Management
- 644: Workforce Directory / Locator
- 645: Team / Org. Management
- 646: Contingent Workforce Management
- 647: Workforce Acquisition / Optimization

Support Services

The Support Services Domain defines the set of cross-functional capabilities able to be leveraged independent of Service Domain objective and/or mission.

Support Services

(761) Security Management

— 648: Identification and Authentication
— 649: Access Control
— 650: Cryptography
— 651: Digital Signature Management
— 652: Intrusion Prevention
— 653: Intrusion Detection
— 654: Incident Response
— 655: Audit Trail and Capture Analysis
— 656: Certification and Accreditation
— 657: FISMA Management and Reporting
— 658: Virus Protection

(762) Collaboration

— 659: Email
— 660: Threaded Discussions
— 661: Document Library
— 662: Shared Calendaring
— 663: Task Management

(763) Search

— 664: Query
— 665: Precision / Recall Ranking
— 666: Classification
— 667: Pattern Matching

(764) Communication

— 668: Real Time / Chat
— 669: Instant Messaging
— 670: Audio Conferencing
— 671: Video Conferencing
— 672: Event / News Management
— 673: Community Management
— 674: Computer / Telephony Integration
— 675: Voice Communications

(765) Systems Management

— 676: License Management
— 677: Remote Systems Control
— 678: System Resource Monitoring
— 679: Software Distribution
— 680: Issue Tracking

(766) Forms Management

— 681: Forms Creation
— 682: Forms Modification

TRM – Service Categories and Standards

The TRM provides a framework to describe how standards and technologies support the secure delivery, exchange, and construction of Service Components.

To demonstrate how a major IT investment aligns with the FEA Technical Reference Model (TRM), list the Service Areas, Categories, and Standards supporting the IT investment. For more information on the TRM, go to www.egov.gov.

Service Access and Delivery

Access Channels	Delivery Channels	Service Requirements	Service Transport
Web Browser	Internet	Legislative / Compliance	Supporting Network Services
Wireless / PDA	Intranet	Authentication / Single Sign-on	Service Transport
Collaboration / Communications	Extranet	Hosting	
Other Electronic Channels	Peer to Peer (P2P)		
	Virtual Private Network (VPN)		

Service Platform and Infrastructure

Support Platforms	Delivery Servers	Hardware / Infrastructure
Wireless / Mobile	Web Servers	Servers / Computers
Independent Platform	Media Servers	Embedded Technology Devices
Dependent Platform	Application Servers	Peripherals
	Portal Servers	Wide Area Network (WAN)
Software Engineering		Local Area Network (LAN)
Integrated Development Environment (IDE)	**Database / Storage**	Network Devices / Standards
Software Configuration Management	Database	Video Conferencing
Test Management	Storage	
Modeling		

Component Framework

Security	User Presentation / Interface	Business Logic	Data Management
Certificates / Digital Signatures	Static Display	Platform Independent Technologies	Database Connectivity
Supporting Security Services	Dynamic Server-Side Display	Platform Dependent Technologies	Reporting and Analysis
	Content Rendering		
	Wireless / Mobile / Voice	**Data Interchange**	
		Data Exchange	

Service Interface and Integration

Integration	Interoperability	Interface
Middleware	Data Format / Classification	Service Discovery
Enterprise Application Integration	Data Types / Validation	Service Description / Interface
	Data Transformation	

Note: **In the TRM table in the Exhibit 300, agencies should indicate the SRM Service Components supported by the TRM Service Standards listed. Agencies should provide information on the vendor and product mapped to the Service Standard in the "Service Specification" field.**

Additional Guidance

The purpose of this guide is to help agencies map their investments to the FEA Reference Models, especially for completing the Exhibit 53 and Exhibit 300 in OMB Circular A-11, for the FY10 budget year.

For Exhibit 53 Mappings:

- The primary mapping to the FEA reference models is no longer included as part of the UPI code; instead, it is captured in columns called "Primary FEA Mapping (BRM or SRM)" in the Exhibit 53.

- Agencies should map investments to the FEA BRM based on the function of the investments; *not* the function of the program or mission of the agency. If the investment provides a service supporting multiple business functions, agencies can map the investment to the SRM.

- Though an IT investment can have a number of valid mappings to the BRM or SRM, the primary mapping should be the line of business and sub-function (BRM) or the service type and service component (SRM) it most directly supports.

- If an investment provides multiple service components within a service type, agencies can use the following codes in the Service Component column:
  - (500) delivers all service components within the service type or
  - (501) delivers more than one service component within the service type.

- The BRM "Mode of Delivery" business area is not valid for primary FEA mappings.

- Agencies should not use the "Information and Technology Management" (404) and "Administrative Management" (401) mappings for investments supporting mission-specific functions. Investments should be mapped to the appropriate mission-specific line of business and sub-function of the BRM.

For Exhibit 300 Mappings:

- In the SRM table, if an agency service component is not represented by a Service Component in the FEA SRM, enter "NEW" in the "FEA SRM Component" field and provide a name and description in the "Agency Component Name" and "Agency Component Description" fields in the Exhibit 300.

- In the SRM table, the percentages in the "BY Funding Percentage" column can, but are not required to, add up to 100%. However, they should not add up to more than 100%.

- In the TRM table in the Exhibit 300, agencies should indicate the SRM Service Components supported by the TRM Service Standards listed. Agencies should provide information on the vendor and product mapped to the Service Standard in the "Service Specification" field.

For More Information:

- Agencies should refer to the updated FEA Reference Model documentation for FY10 located on www.egov.gov. These include:
  - Consolidated Reference Model (CRM) Version 2.3
  - CRM Version 2.3 Revisions Summary document

- For guidance on completing the Exhibit 300 and Exhibit 53 for the FY10 budget year, see OMB Circular A-11, available at http://www.whitehouse.gov/omb/circulars/a11/current_year/a11_toc.html.

Contact Information

For additional information please visit the FEA PMO website:
www.egov.gov

For any questions/comments, e-mail the Federal Enterprise Architecture Program Management Office (FEA PMO) at:
fea@omb.eop.gov