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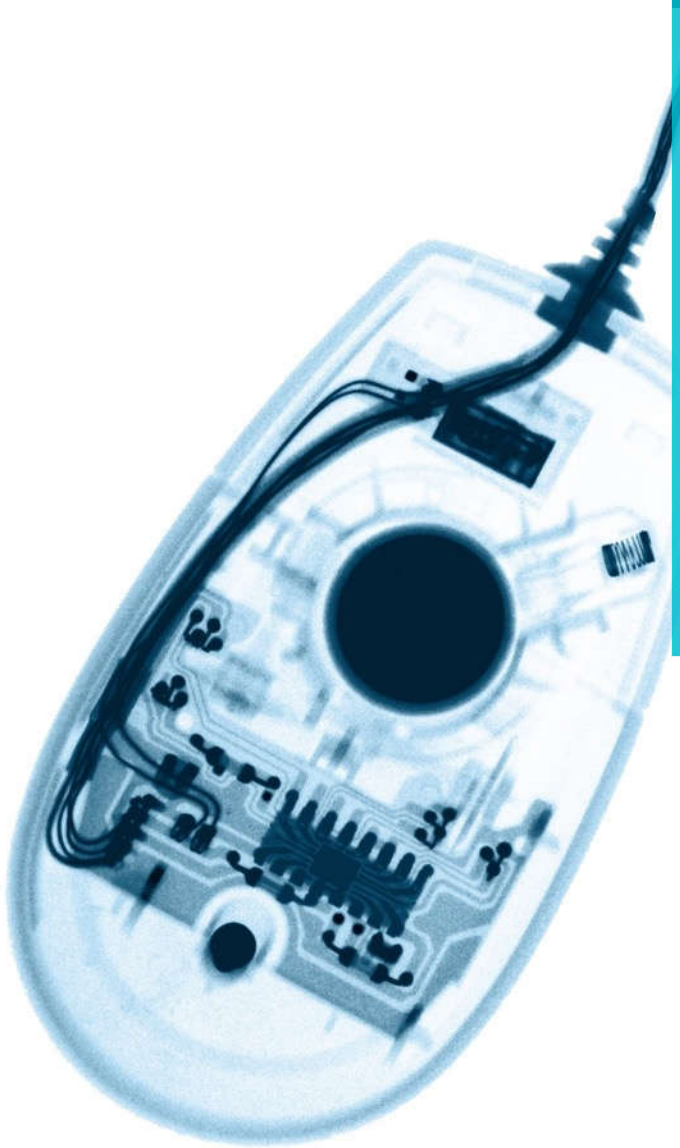
Face the Future with Confidence



AML TECHNOLOGY 101
CONCEPTS AND CONSIDERATIONS

Middle TN ACAMS Chapter Meeting

February 15, 2018

AGENDA

- Technology's place within an AML program
  - Including some related compliance aspects
- Components of an AML / Compliance technical ecosystem
  - KYC/CDD/EDD
  - Activity monitoring – e.g. transactions, trades, other value transfer/conversion activity
  - Work item management – e.g. alerts, cases, special requests
  - Watch list filtering
- AML-relevant emerging technology

DISCLAIMER

This is an overview

The detailed session starts earlier, ends later, and requires more food. **

** And likely more caffeine

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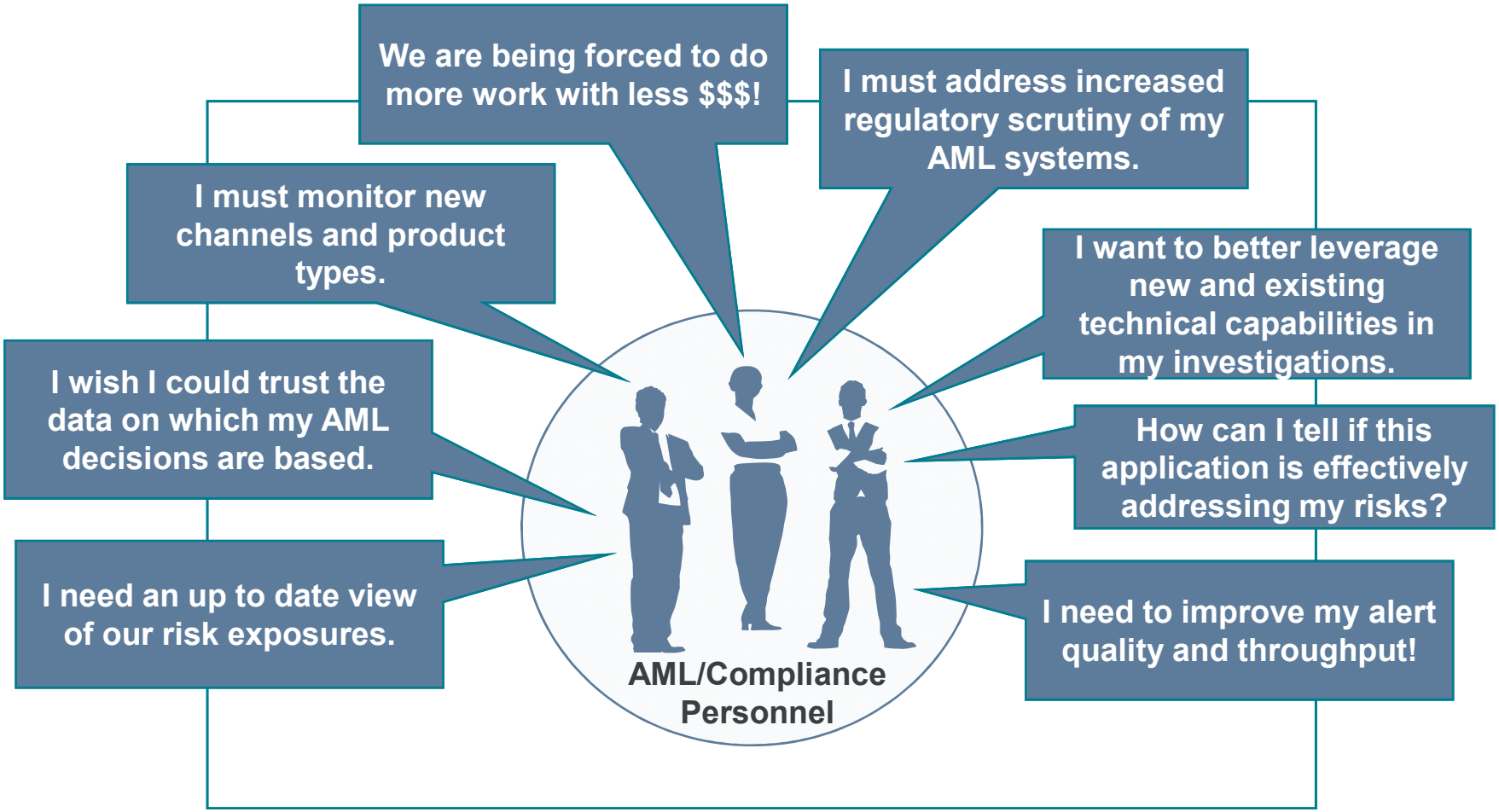
SOUND FAMILIAR?



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POP QUIZ

Which one of the following is not a pillar of AML?

A. Designated BSA / AML Compliance Officer

B. Relevant AML Training for staff

C. Internal Controls

D. Independent Testing

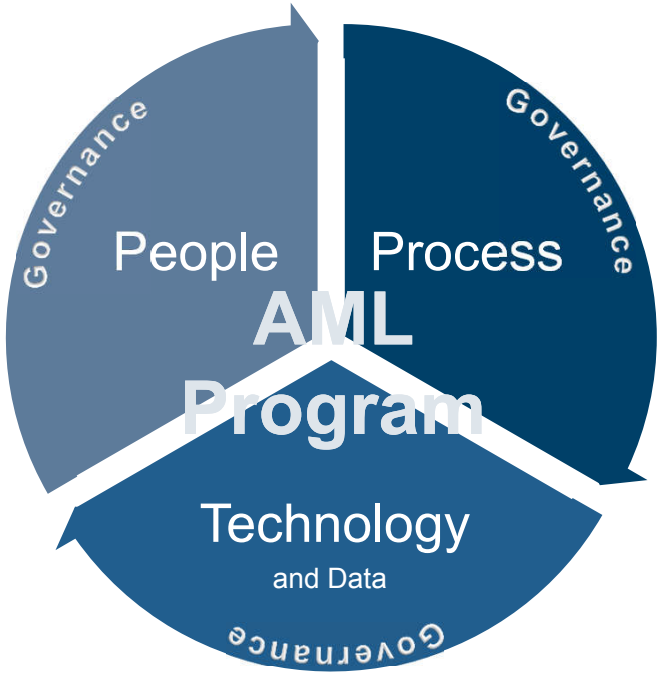
E. Capable technical solution

TECHNOLOGY WITHIN AN AML PROGRAM

- Pillars of AML are primarily People and Process-focused
- Traditionally less regulatory focus on exactly *how* pillars are implemented technically
  - Influences may include cost, efficiency, enterprise technical strategy, and other non-regulatory factors
  - Rationale must still be appropriate for institution's risk profile
  - Increasing focus on technical solution (e.g. see NY DFS-504)

Who

- Designated BSA/AML Compliance Officer
- Well-trained staff



What

- Internal Controls – Policies and Procedures
- Independent Testing
- ***Risk-based CDD procedures ("new 5th Pillar")*

How

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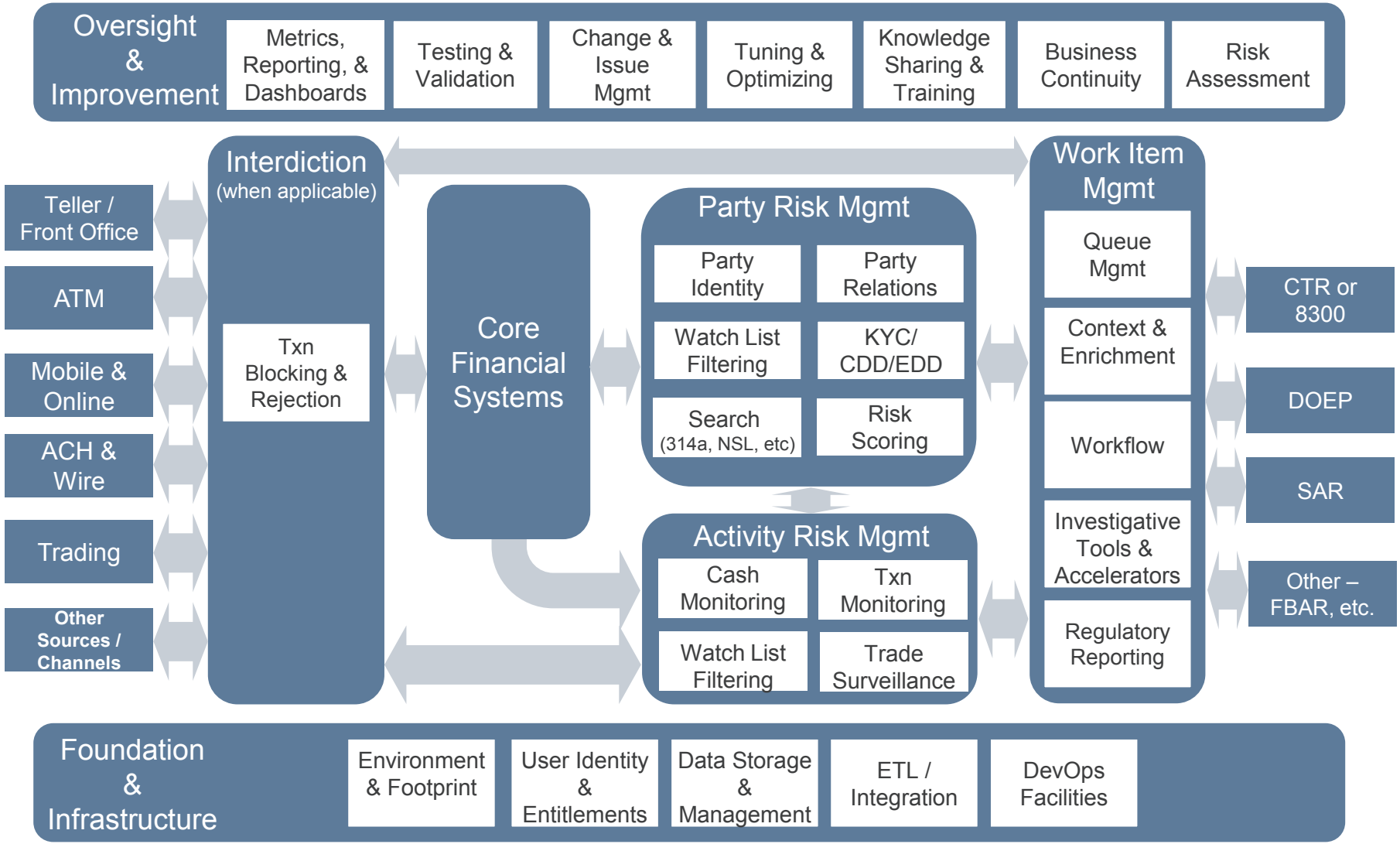
AML / COMPLIANCE ECOSYSTEM CAPABILITIES VIEW



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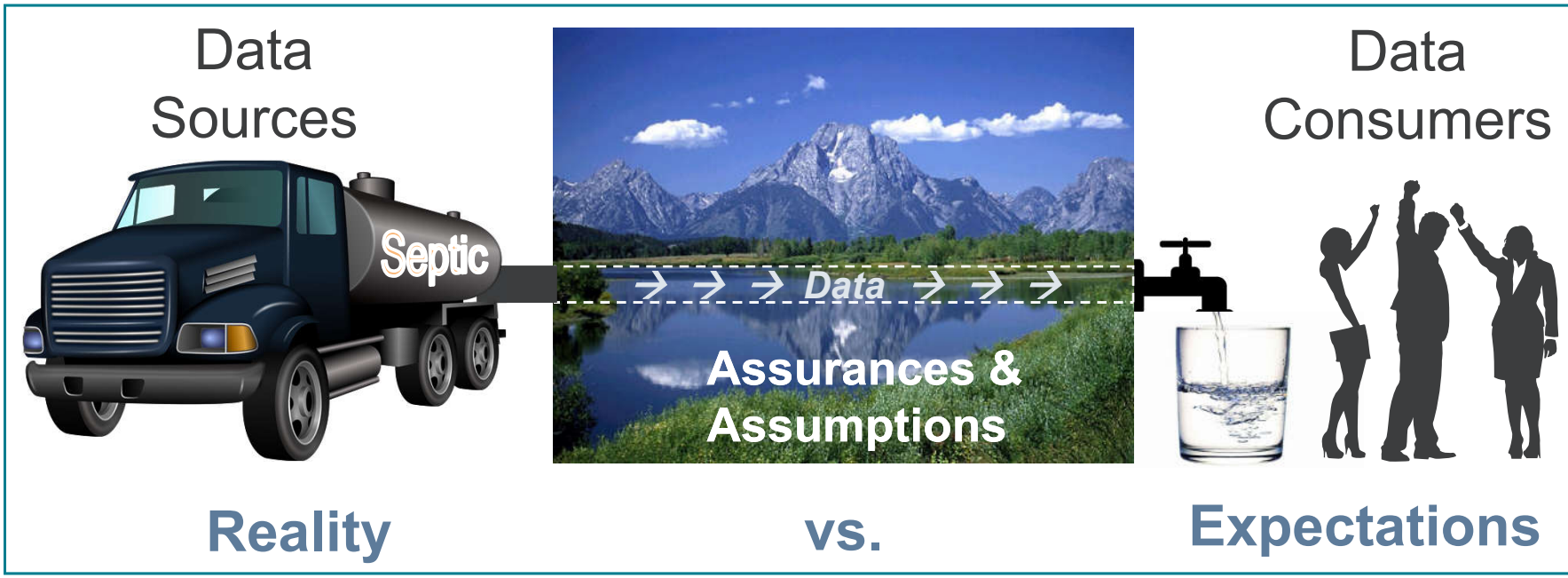
GOOD^DECISIONS DON'T COME FROM BAD^DATA



"Bad Data Costs the U.S. $3 Trillion per Year"
Harvard Business Review, September 22, 2016

"Studies show that knowledge workers waste up to 50% of time hunting for data, identifying and correcting errors, and seeking confirmatory sources for data they do not trust."
"Data's Credibility Problem", Harvard Business Review, December 2017

"Research from Experian Data Quality … found that bad data has a direct impact on the bottom line of 88% of all American companies."
"The Hidden Cost of Bad Data", insideBIGDATA.com, May 5, 2017

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DATA QUALITY DIMENSIONS AND AML/COMPLIANCE

Accuracy	• KYC/CDD/EDD data depicts customer in “real life”. • AML KPIs depict actual performance, and KRIs depict actual risk. • Regulatory reports depict the actual reportable activity.
Completeness	• All relevant parties, accounts, and transactions are available to analysis and monitoring. • Regulatory filings provide a full picture of the reported activity.
Consistency	• AML data agrees with source data and/or itself - where applicable. • Coded values mean the same thing across data sets - e.g. country codes, account types, etc.
Validity	• KYC and other attributes are within their expected domains and constraints. • Model output has been independently validated.
Timeliness	• Relevant reference and transactional activity is received within monitored period. • CDD/EDD data refreshes occur on schedule. • Watch lists are up to date.
Uniqueness	• Only one (complete) version of each customer (or party) in reference data. • Single View of Party / Customer • Transactional data is not duplicated.
Reasonability “The Big Picture”	• Activity monitoring and watch list filtering model output qualitatively “make sense”. • AML data volumes are reflective of known business activity, trends, and risks.

KYC / CDD / EDD : PROCESS AND TECHNICAL CONSIDERATIONS (1 OF 2)

- Risk assessment-driven model
- Risk factor weighting – e.g.
  - Geography risk factors
  - Product risk factors
  - Activity risk factors
- Risk factor interplay / dependencies
- KYC attribute selection
- Data profiling of existing attributes
- Attribute value risk mapping – e.g.
  - Country
  - Occupation
  - Industry
- Model confirmation
  - Initial with representative examples
  - Later with real data

- KYC attribute capture logistics
  - Systems and Processes
  - Timing (new attributes)
  - Explicit Factors – e.g.
    - Demographics
    - Expected activity
  - Derived Factors - e.g.
    - Products
    - Relationships
    - Actual activity
- Data quality enforcement
  - Initial clean-up
  - At capture time
  - Via CIP alert

KYC / CDD / EDD : PROCESS AND TECHNICAL CONSIDERATIONS (2 OF 2)

- Single view of customer
- Manual +/- adjustments
  - Model weakness or anomalous customer?
  - To force increased scrutiny
  - Adjustment rationale retention
- Usage
  - CDD vs. EDD flag
  - Population segmentation for activity monitoring (e.g. TM)
  - Review/Re-verify frequency
  - Alert/case triage or routing

- CDD vs EDD workflow
  - By customer type
  - RFI tracking
- DD resources and tools
- Score refinement with more collected data – e.g
  - Negative news
  - Additional related parties

- Profiling exception alerts
- Rescoring approach
  - Schedule-based
  - Factor change
    - Detection
    - Any or only some
  - Defensible rationale

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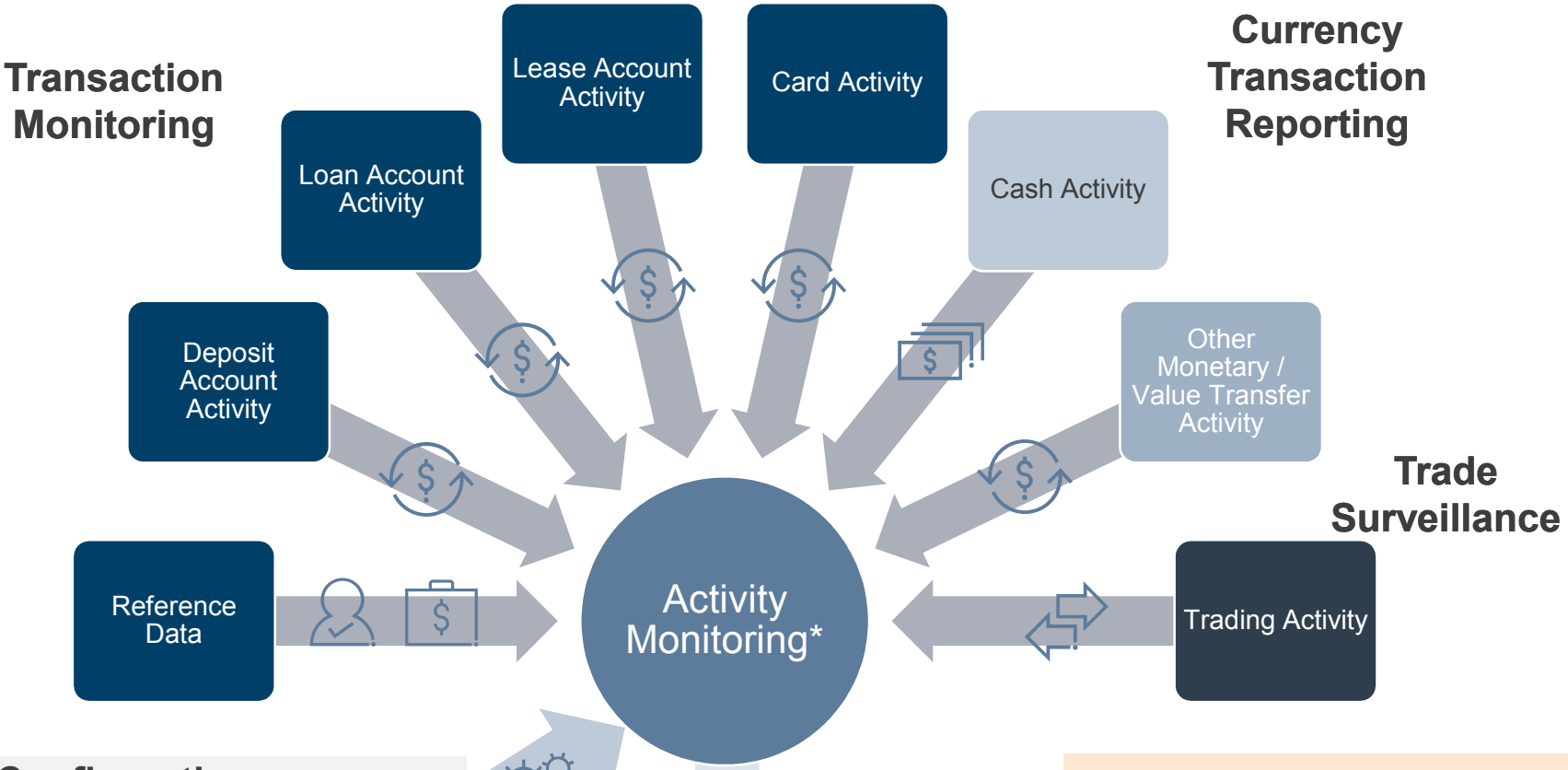
ACTIVITY MONITORING : OVERVIEW



Configuration

- Parameterized detection scenarios based on red flag typologies
- Tuned alerting thresholds

Output

- Actionable events – e.g.
  - CTR filing
  - Alerts for review/triage

* Excluding watch list filtering, which does not involve analysis of the value transfer/conversion typologies being scanned – only the involved parties.

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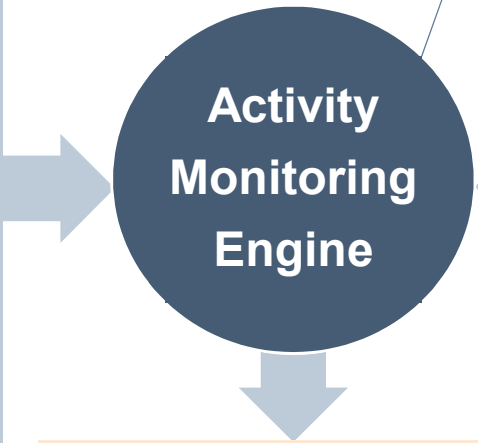
ACTIVITY MONITORING : IMPLEMENTATION CONSIDERATIONS

Activity Data

- Scope
  - Scenario data
  - Reference data
  - Ancillary/Enrichment data
    - Segmentation
    - Display
  - Retention and footprint
- KYD – Know Your Data
  - Quality
  - Lineage
  - Structure
  - Domain / special cases
  - Granularity and visibility
- Mapping to the Monitoring Solution
  - Structural
  - Content (types/domains)
  - Cross-source naming
- ETL (Extract/Transform/Load)
  - Exception handling

- Packaged vs. Custom
- Built-in scenario coverage
- Model sophistication & transparency



Configuration

- Pre-requisite
  - Red flag review and impact-based prioritization
- Scenario selection/definition
- Population segmentation
  - Static
  - Dynamic
    - AI-based
- Threshold tuning
  - By segment, if applicable
  - BTL vs. ATL testing
  - Periodic review

Output

- Alert/case management integration and process
- Effectiveness feedback for learning/tuning purposes
- Independent validation
- Volume
- Sub-BTL sampling and review

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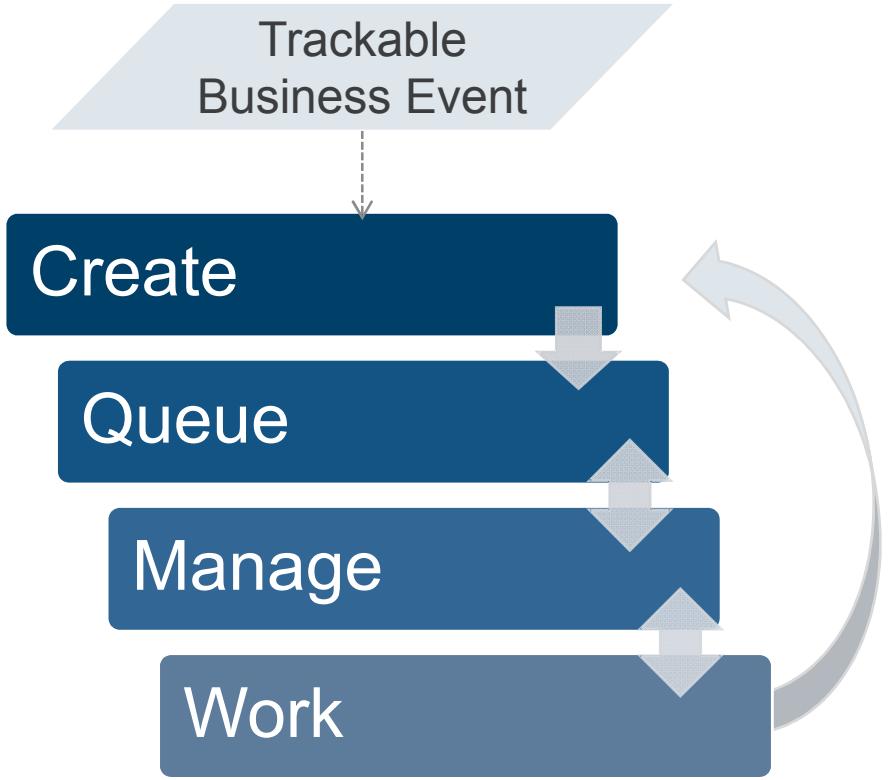
WORK ITEM MANAGEMENT : OVERVIEW

Definition : A work item is a collection of operational activities that is managed and tracked as a unit and has a defined lifecycle.

- Common work items:
  - Alert (Alert Management)
    - Transaction monitoring
    - KYC profiling and CIP events
    - CTR
    - Sanctions / watch list
  - Case (Case Management)
  - Information requests
    - Incoming 314(a), 314(b), subpoena, etc.
    - Outgoing 314(b), branch/CIP, etc.
- Items may create (spawn) other, linked work items
  - e.g. Alert → Case, Case → RFI tracker



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SURVEY

Are you in a role requiring the tracking of actionable AML work items (alerts, cases, RFI's, etc.)?

A. Yes

B. No

If, Yes, how are they tracked?

A. In my head, on a "sticky," or other informal mechanism

B. In a spreadsheet or other generic office application

C. In multiple applications (e.g. alerts one place and cases in another)

D. In a single, integrated application (i.e. alerts, cases, RFI's, etc. in one place)

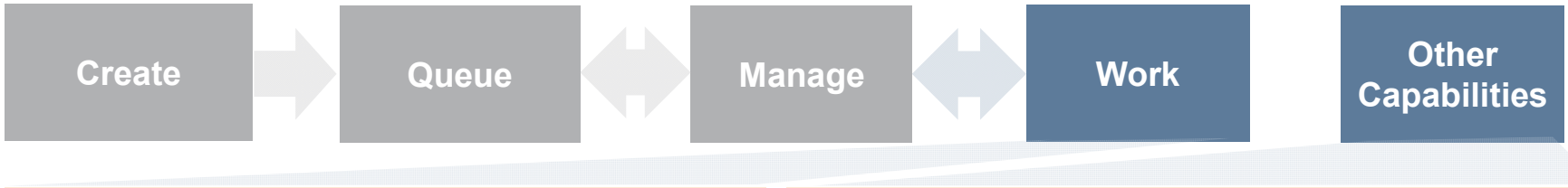
WORK ITEM MANAGEMENT : COMMON OR DESIRABLE CAPABILITIES

- Manual items
- Generated items
- Sourcing/integration
- Common item types
  - Alert
  - Case
  - RFI
    - Incoming as alerts
- Data enrichment
  - For analyst context
- Item data timeliness
  - Point-in-time at creation
  - Real-time/near real-time
  - Refresh over life of item
    - Periodic
    - Ad Hoc

- Prioritization / triage
  - e.g. Risk-based
- Skills-based queues/routing
- Workload balancing
- Time-based escalation
- Personal, team, and cross-team views
- Bulk item operations
- Item visibility controls
  - By organizational hierarchy
  - By Dept or LOB
  - VIP / Privacy flags

- Risk-based auto-closure
- Assignment
  - Self (Any)
  - Get Next
  - Workload-based (Auto)
  - Related item (Auto)
- Reassignment
  - In AML vs. To other dept
- Merge/Split
- Link/Unlink
  - Link = Relate w/o co-mingling content
- Logical “Next step” routing
  - Approval routing
- Re-open

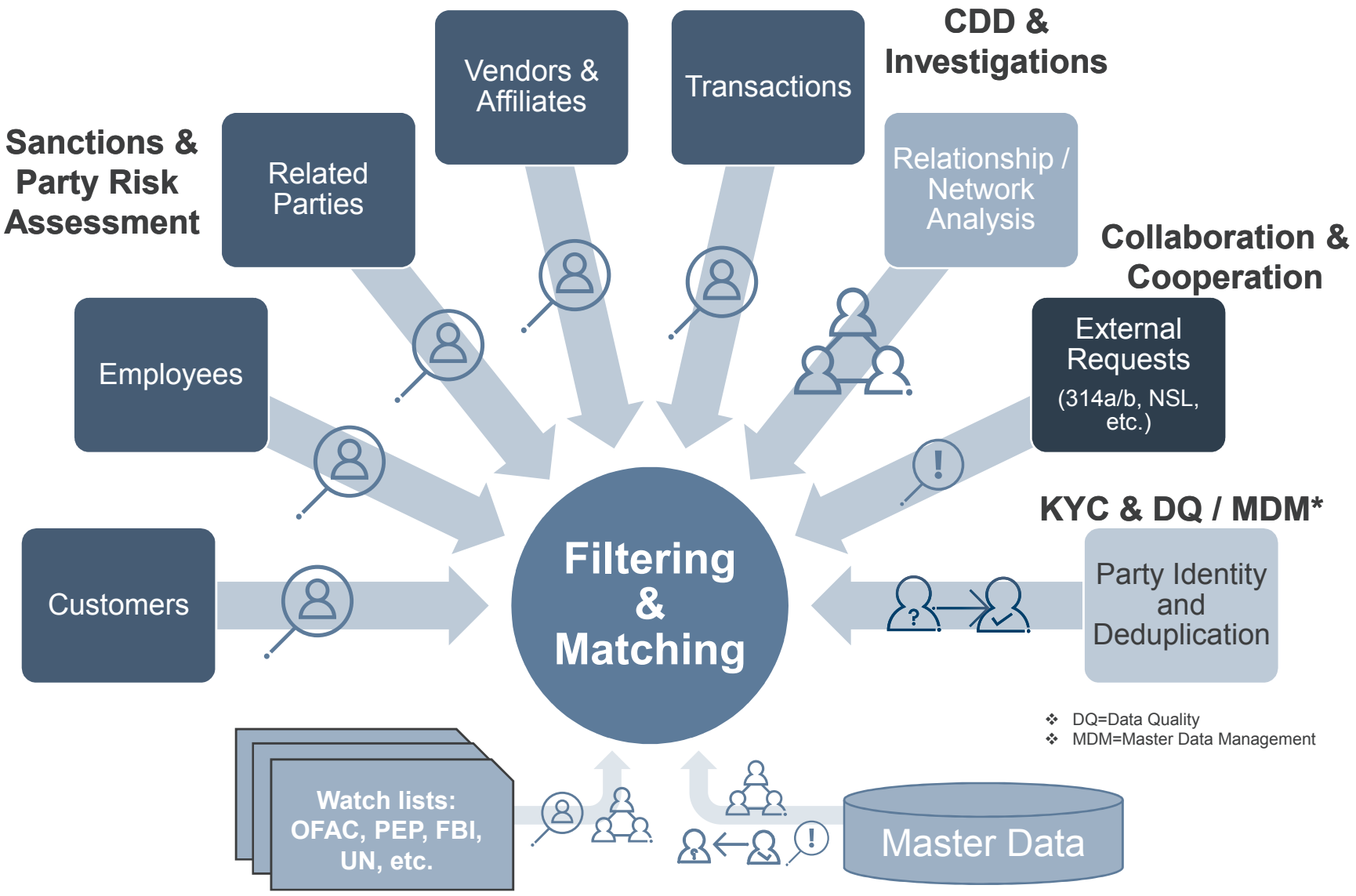
WORK ITEM MANAGEMENT : COMMON OR DESIRABLE CAPABILITIES



- Typology-specific views/forms/wizards
- Sub-item tracking
  - e.g. RFIs
- Visualization/analytics integration
  - e.g. Network, geo, time-series, plotting
  - Import/export
- Artifact capture and attachment
  - e.g. Print screens, documents, structured data such as txns
- Related item display
  - e.g. Related by customer or account
- Note/comment logs
- Automation for common tasks
- Metrics-friendly dispositioning
  - e.g. Standard reasons/reason codes, red flags selection, etc.

- Search
  - Structured (specific attributes)
  - Unstructured (anywhere on item)
- Item and Item list export
  - Spreadsheet
  - Law enforcement/subpoena packaging
- Integrated QA
  - e.g. Route every 10th alert to QA queue
- Filing-specific functions
  - e.g. SAR e-filing, SAR calendar, amendments, narrative assistance, etc.
- Integrated communications and logging
  - E-mail, IM, phone, etc.
- Audit log
- Entitlements/SOD enforcement
- Management dashboards and reports

FILTERING AND MATCHING IN AML / COMPLIANCE



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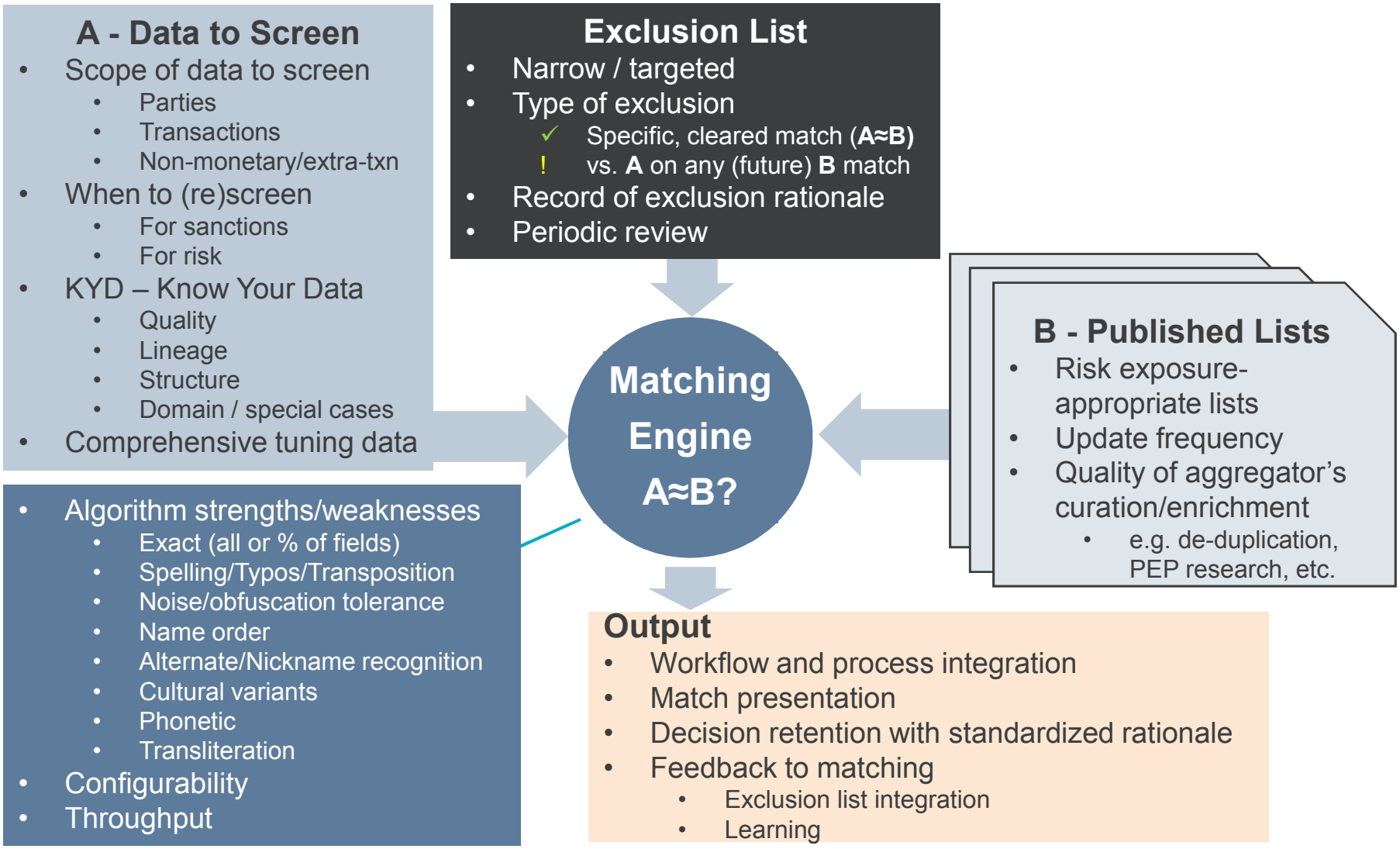
WATCH LIST FILTERING : IMPLEMENTATION CONSIDERATIONS



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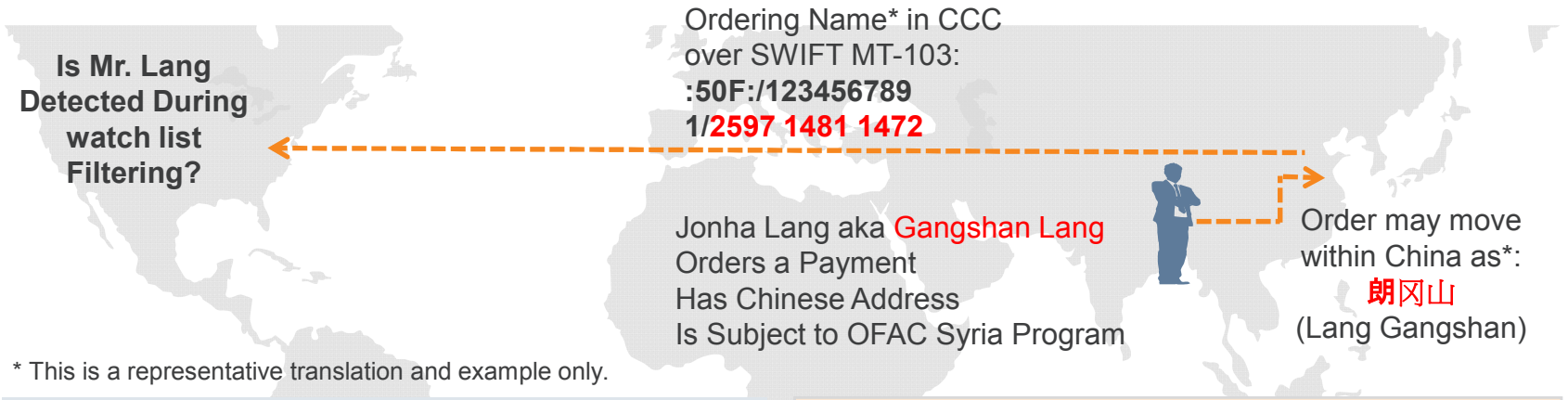
WATCH LIST FILTERING (AND KYD) :
EXAMPLE : CCC AS A WATCH LIST FILTERING CONCERN



* This is a representative translation and example only.

Background

- SWIFT FIN messages (e.g. MT-103, MT-199, MT-202, etc.) support English alphabetic characters - not Chinese.
  - Encoding/Decoding is required when there are Chinese characters required in the instruction.
- Chinese Commercial Code (CCC) represents each Chinese character as a series of 4 digit codes.
  - Originated as Chinese Telegraphic Code (CTC)
  - May be used in any narrative field (name, addr, etc.)
  - Different Western spellings may have same CCC.

Considerations

- Are Greater China area payments a risk exposure for your organization?
- What are your existing screening system's capabilities around handling CCC?
- CCC is a readily detectable pattern (…nnnn nnnn…) that can be flagged for manual review.
- Some OFAC list entries do include the CCC name.
  - See Guoywing Wang Id Type as of Jul 29, 2014.
- CCC may present a risk for certain AML scenarios involving 3rd party profiling or matching.

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EMERGING TECHNOLOGIES INTERSECTING AML

Cryptocurrencies/ Blockchain

BITCOIN ETHEREUM RIPPLE HYPERLEDGER

- Blockchain
  - Secure, distributed, verifiable "public" ledger
  - Prevents double-spending
  - Changes
    - Detectable by any
    - Viewable by some
  - Facilitates rapid settlement
  - Non-monetary uses
- Cryptocurrency
  - Collateralized vs. pure digital
    - Utility Settlement Coin (USC)
- Regulator interest vs. institutional interest

Cloud

- Scaling
- Data privacy
- Fault tolerance
- Public vs. Private vs. Hybrid
- "Template" solutions
  - e.g. typical mid-size bank
- Cross-institution AML potential
  - Cross-institution analytics and data sharing

EMERGING TECHNOLOGIES INTERSECTING AML

Robotic Process Automation

- Types
  - RPA – Robotic Process Automation
    - aka “headless”
  - RDA – Robotic Device Automation
  - IPA – Intelligent Process Automation
- Use case characteristics
  - Manual, error prone, high volume
  - Minimal or rule-based deviation
    - IPA has greater deviation tolerance
  - e.g. Info gathering, doc. processing
- Typically rapid ROI

Artificial Intelligence

- Learning types
  - Unsupervised
    - Data → Patterns/classifications
    - e.g. intelligent / dynamic segmentation
  - Supervised
    - Data + Past Decisions → Future Decisions about New Data
    - e.g. determine critical factors to make typology-specific recommendations
- Data-intensive
- Integral to other emerging tech
  - e.g. IPA, NLP, etc.
- Analyst advisor vs. Analyst substitute

QUESTIONS

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ADDITIONAL REFERENCE MATERIAL

- AML FAQ's
  - https://www.protiviti.com/aml
- AML and Data Governance
  - https://www.protiviti.com/US-en/insights/aml-and-data-governance-how-well-do-you-kyd
- Views on AML Transaction Monitoring Systems
  - https://www.protiviti.com/sites/default/files/united_states/insights/views-on-aml-transaction-monitoring-systems-protiviti-uk.pdf
- Transaction Screening Considerations
  - https://www.protiviti.com/US-en/insights/validating-real-time-sanctions-screening-systems-critical-considerations
- Improve Threshold Values Tuning of Transaction Monitoring Systems by Taking a Qualitative Approach
  - https://www.protiviti.com/US-en/insights/improve-threshold-values-tuning-transaction-monitoring-systems-taking-qualitative-approach