

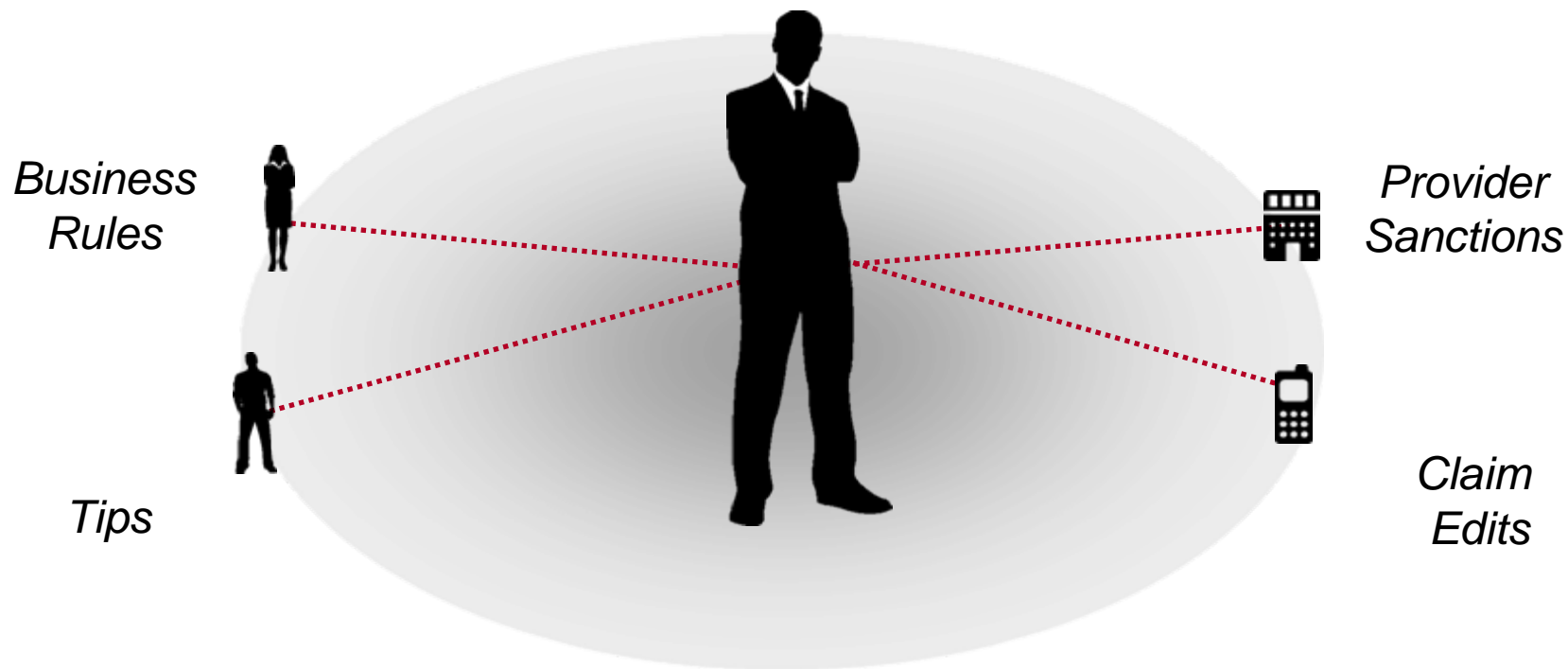


# Implementing A New Model of Fraud Risk Control

## Predictive Modeling Summit - September 2010

985

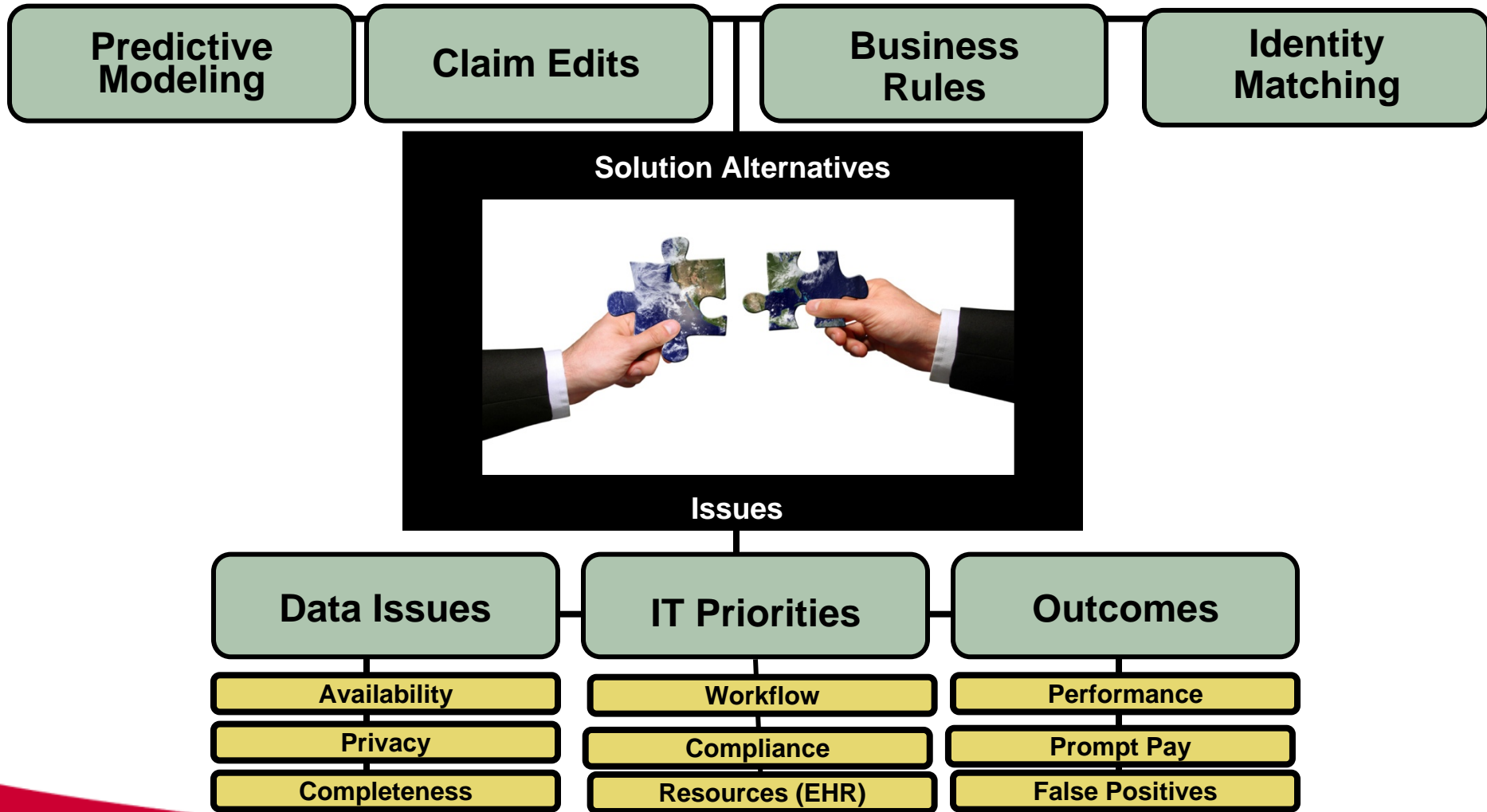
# How you locate fraud and abuse today



# The analytics and data toolkit

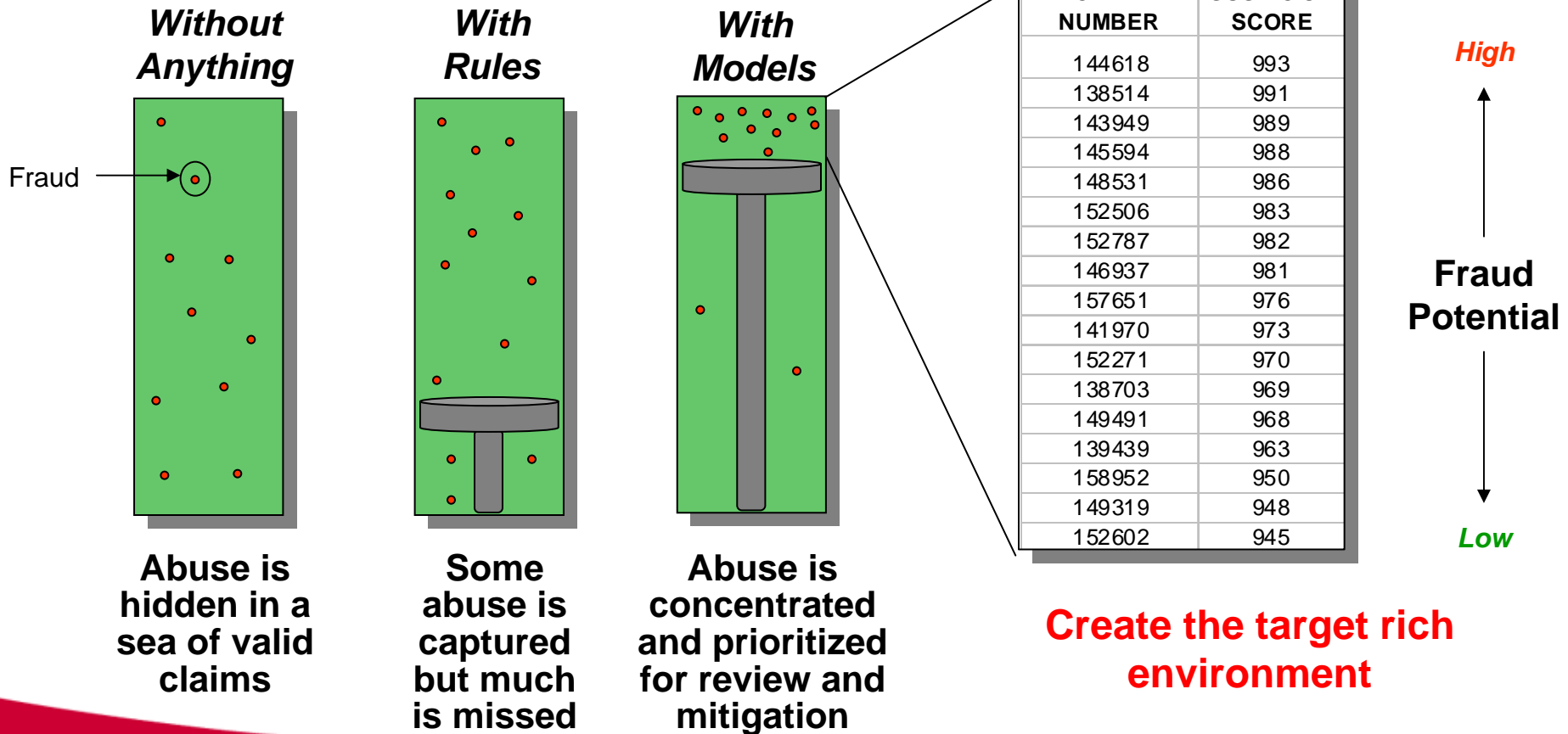
- Multiple functional components in today's fraud and abuse toolkit:
  - Predictive modeling
  - Business rules/rules based algorithms
  - Watch list identity matching
  - Social network analysis
  - Public records data
  - Contributory data (SIRIS)
  - Case management

# Healthcare Analytic Solution Challenges



# Claim scoring using **predictive models**:

Predictive modeling provides a score for each claim or policy, allowing activity to be concentrated on areas that have the highest probability of identifying fraud and abuse



# Healthcare – the special case

- Medicaid, Medicare, Blues and Commercial Plans - different business rules/different priorities –all strapped for resources
- Prompt Pay Rules vary by state but always require virtually immediate decision making
- Not the same as credit cards, not at all
- MLR and reform mean uncertainty for many years to come
- Fraud risk control requires an enterprise approach that includes delivery, quality and compliance
- The claim workflow will be modified over time to allow for more effective fraud and abuse control

# Algorithms

- Supervised vs. Unsupervised Learning
  - Have a specific outcome in historic data
  - Do not have an outcome “cluster” like together
- Decision Trees
  - Accurate, conceptually “understandable”, non-linear, non-parametric, robust with outliers, missing data, automatic interaction terms
- Neural Nets
  - Work best with pre-transformed “smooth” data
  - Difficult training time
  - Black Box
- Regression
  - Most established/widely used algorithm
  - Works well, but doesn’t have some of the advantages of trees
  - Works much better on linear data

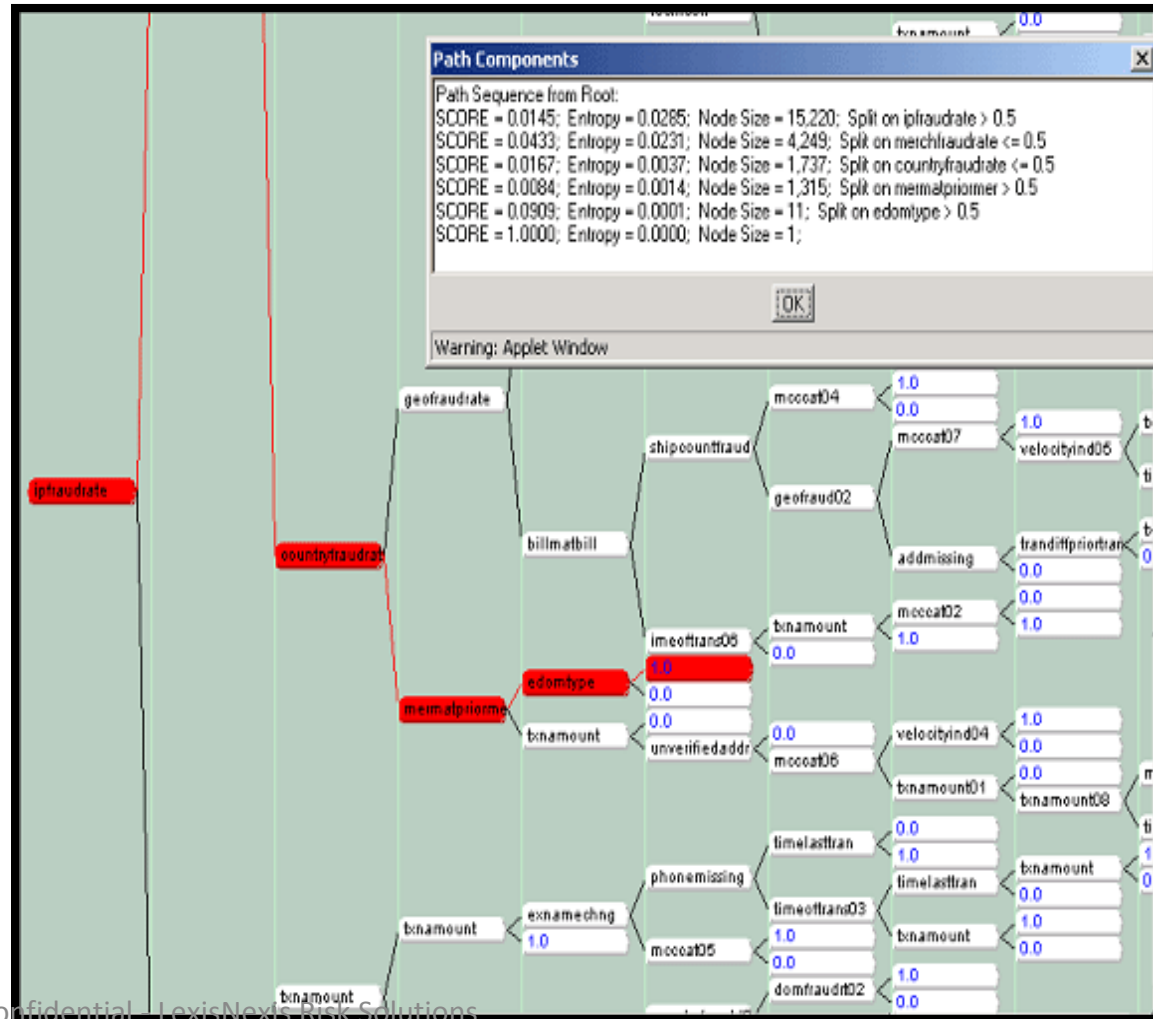


# Building a model

**Accurately identifies likely actionable claims**  
Based on historical data patterns

**Real-world data**  
Handles the realities

**Tree-based Modeling Approach**  
Alleviates “black box” concerns



Confidential LexisNexis Risk Solutions

# What is “Score Plus More”

Sample Model Score: **985**

Claim #	Score
1	985
2	985
3	985
4	985

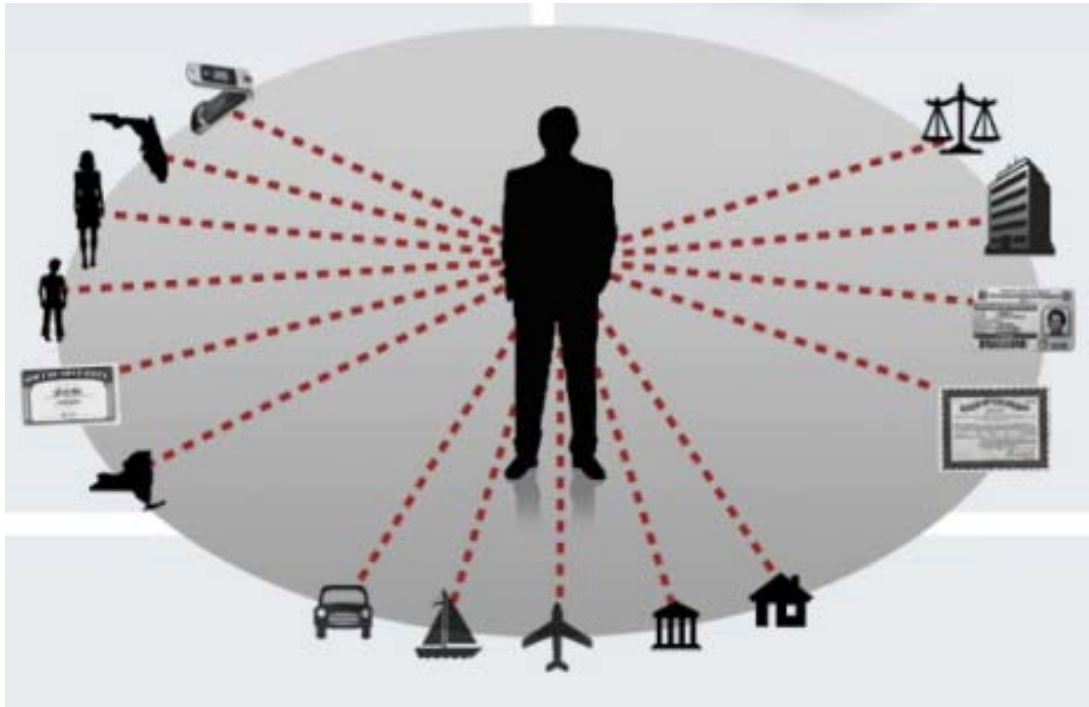
# Predictive modeling provides adds a score *plus more*.

Sample Model Score: **985**

*Plus More*

*Significant Edits*

*Criminal Record*



*Two Sanctions*

*Bankruptcy*

# Provider models

- Models can help identify problem providers early that would not have been identified by other methods
- Looking at thousands of attributes about a provider or a claim to find a data pattern that makes a robust prediction
- Models use:
  - diagnosis codes
  - treatment codes
  - provider types
  - date stamps
- The models identify treatment patterns associated with diagnoses that are characteristic of known problem providers and flags other providers that exhibit similar treatment patterns

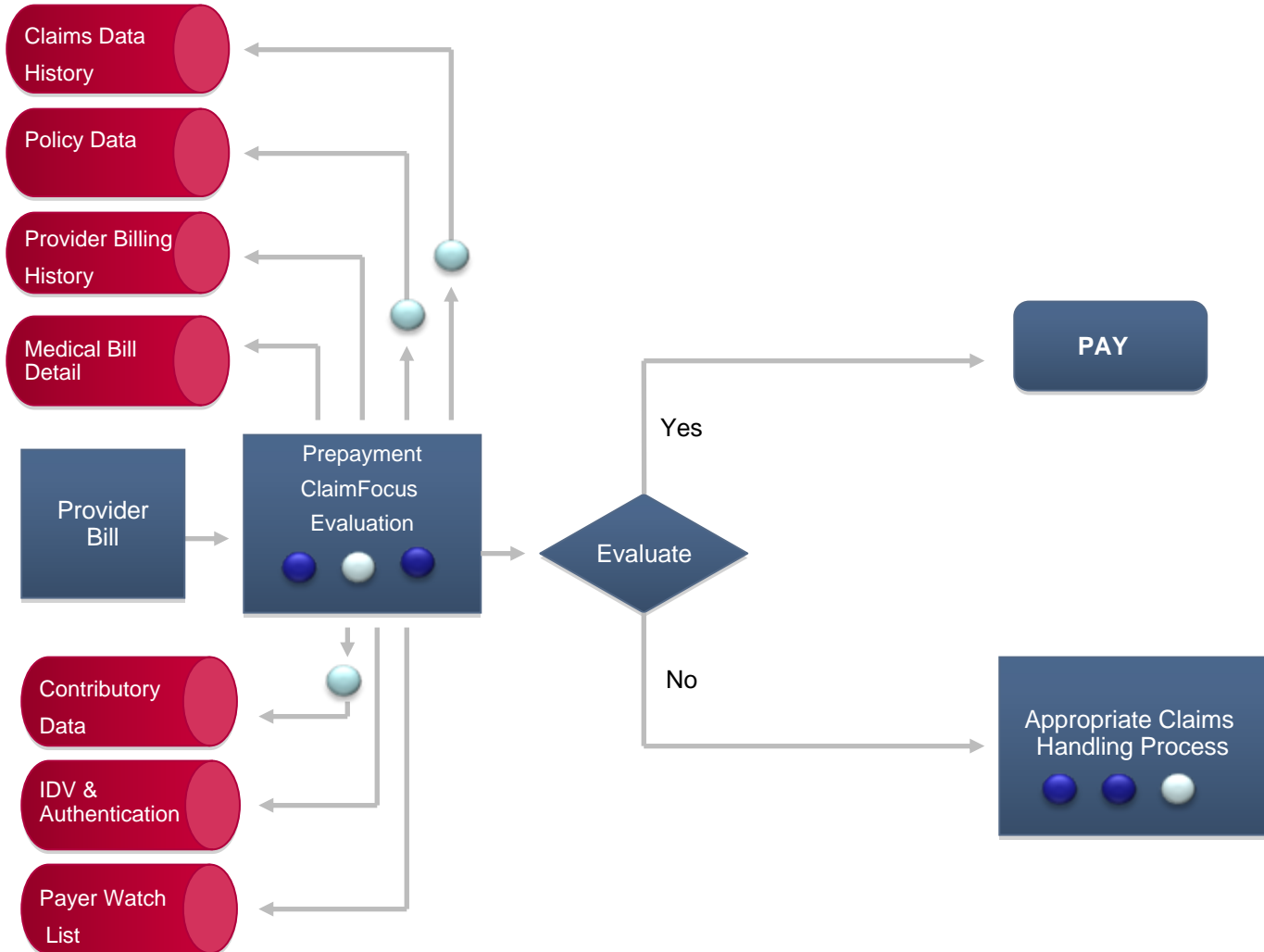
# Predictive Modeling – A Reform Mandate

- Scarce resources and increased enforcement require a “force multiplier”
- Manual review can simply not keep pace with CMS audit and DOJ compliance pressures
- FERA changes mean “we didn’t know” won’t fly anymore
- Transparency and visibility are the keys to exposing increased workflow efficiencies and hidden risk

# Putting it all together



## Medical Claims Analytics Processing



# ClaimFocus – “Score Plus More”

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