How to Build a Solution from Scratch: A Case Study of Partner Engagement and Co-development

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Splunk DevIgnite Program

Accelerate your development of innovative solutions on the Splunk platform!

Email: DevIgnite@splunk.com

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Benefits to Splunk DevIgnite Partners

1. Accelerated development following best practices

2. Faster time to market (and revenue) given Splunk's involvement and GTM support

3. Unique and deeply integrated offerings that help drive customer success

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EPAM AND SPLUNK PARTNER TO DELIVER

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- Rapid development based on Splunk technology
- EPAM Healthcare industry domain knowledge
- Innovation at the heart of EPAM approach
- EPAM partnership adds value to Splunk products

WHO IS EPAM SYSTEMS?

FOUNDED IN
1993

US HEADQUARTERED PUBLIC COMPANY
(NYSE:EPAM)

Q1 2016 Revenue
$264.5M

2016 Revenue Guidance
$1.15B

17,000+
Engineers, designers and consultants

CONSTANT GROWTH

21
Reported Consecutive Quarters

20+%
YOY organic growth

4
Continents

25
Countries

REVENUE BY GEOGRAPHY

North America	**58%**
Europe	**36%**
APAC	**2%**
CIS	**4%**

INDUSTRY FOCUS

27%
Financial Services

24%
Travel & Consumer

21%
Software & Hi-tech

6%
Emerging

14%
Media & Entertainment

8%
Life sciences & Healthcare

SERVICE MIX

Software Engineering & Product/Platform Development

QA and Test Automation

Managed Services

Infrastructure & Licensing

EPAM SAMPLE CUSTOMERS IN HC

KEY FACTS

7%

of EPAM business

9/10

of the top Pharma companies

4/10

of the top Healthcare ISVs

3/5

of the top US Health Plans

1300

Consultants, Engineers & scientists

SAMPLE CLENTS

MERCK NOVARTIS AstraZeneca zoetis Biogen

aetna Cigna Anthem Teladoc onecallcare MANAGEMENT

HEALTHCARE

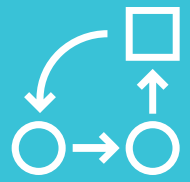
- Product Design
- Transactional Platforms
- Population health management
- ACO, Care Management platforms
- Patient/Consumer Engagement

LIFE SCIENCES

- Scientific Informatics Workflows
- Advanced Algorithms and Big Data
- Knowledge Management / Data Curation
- Enterprise Life Science Platforms

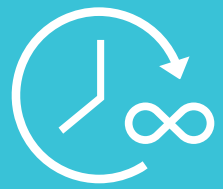
HDEA
Operational Monitoring
Analytics
Reports & Dashboards
Predictive Analytics

HEALTHCARE DATA LANDSCAPE - CURRENT ISSUES

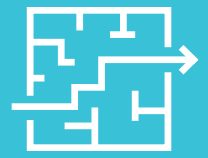


Need better operational control for data flow and quality of data

Predictive analytics is missing



Change takes too long



Solutions are too complex (multiple vendors & integrations)

Ad-hoc reporting is needed

IDEA OF HDEA

- Data driven business and operational insights
- Model and Predict with increasing precision
- Just ”plug it in”, no changes to existing systems
- Minimize change impact, enhance in days

SOLUTION FEATURES

Easily configurable business and predictive analytics

Out of the box availability of ad-hoc reporting

Operational dashboards

(data infrastructure and quality)

Ease of multiple data sources integration

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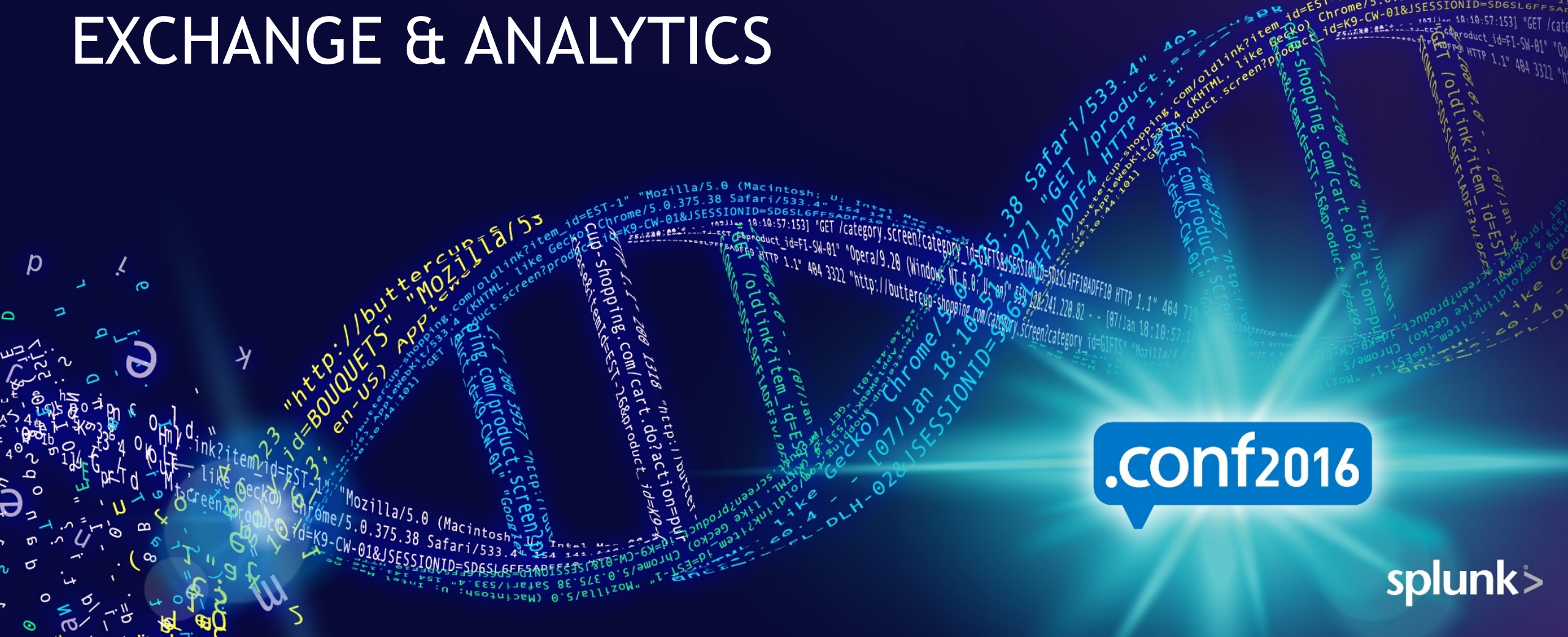
HDEA – HEALTHCARE DATA EXCHANGE & ANALYTICS



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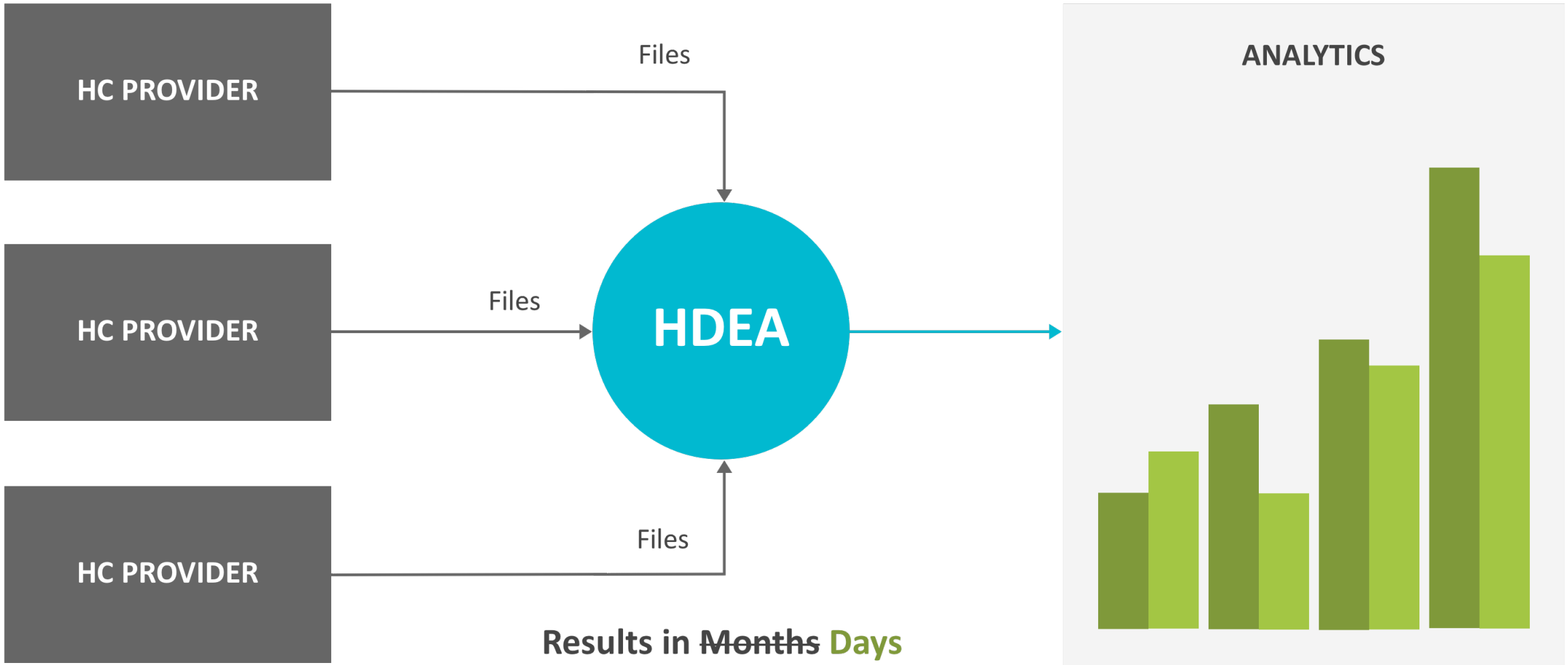
HDEA - HEALTHCARE DATA EXCHANGE & ANALYTICS

Business and operations insights & analytics dashboard

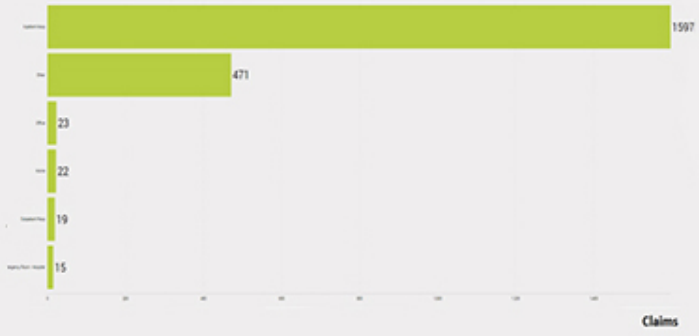
MULTIPLE DATA SOURCES INTEGRATED IN HOURS



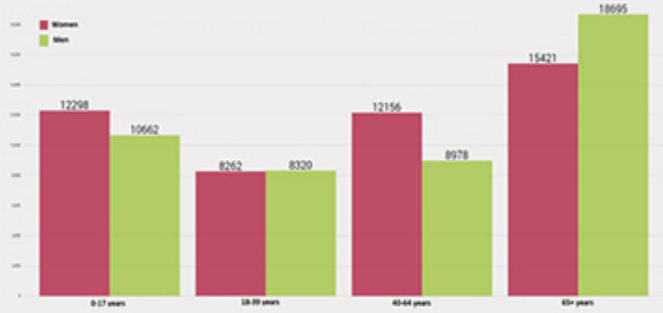
BUSINESS TRENDS DISCOVERED FASTER

BUSINESS INSIGHTS
INTO COST, SERVICES AND
PATIENTS RELATED KPIs

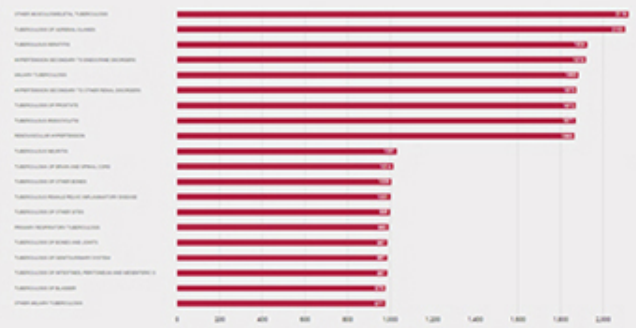
CLAIMS BY TYPE OF VISITS



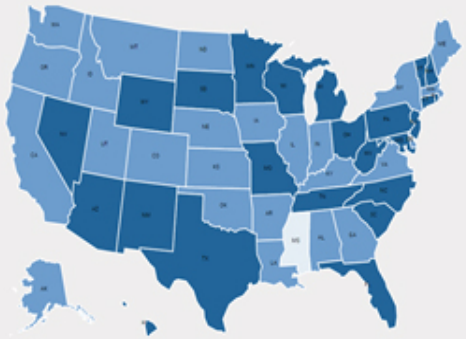
PATIENTS BY GENDER AND AGE



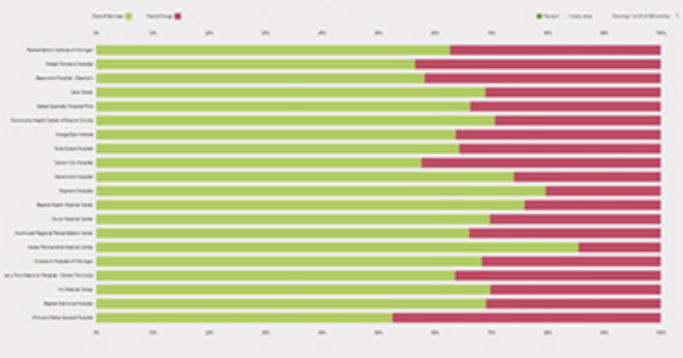
TOP 20 DIAGNOSIS



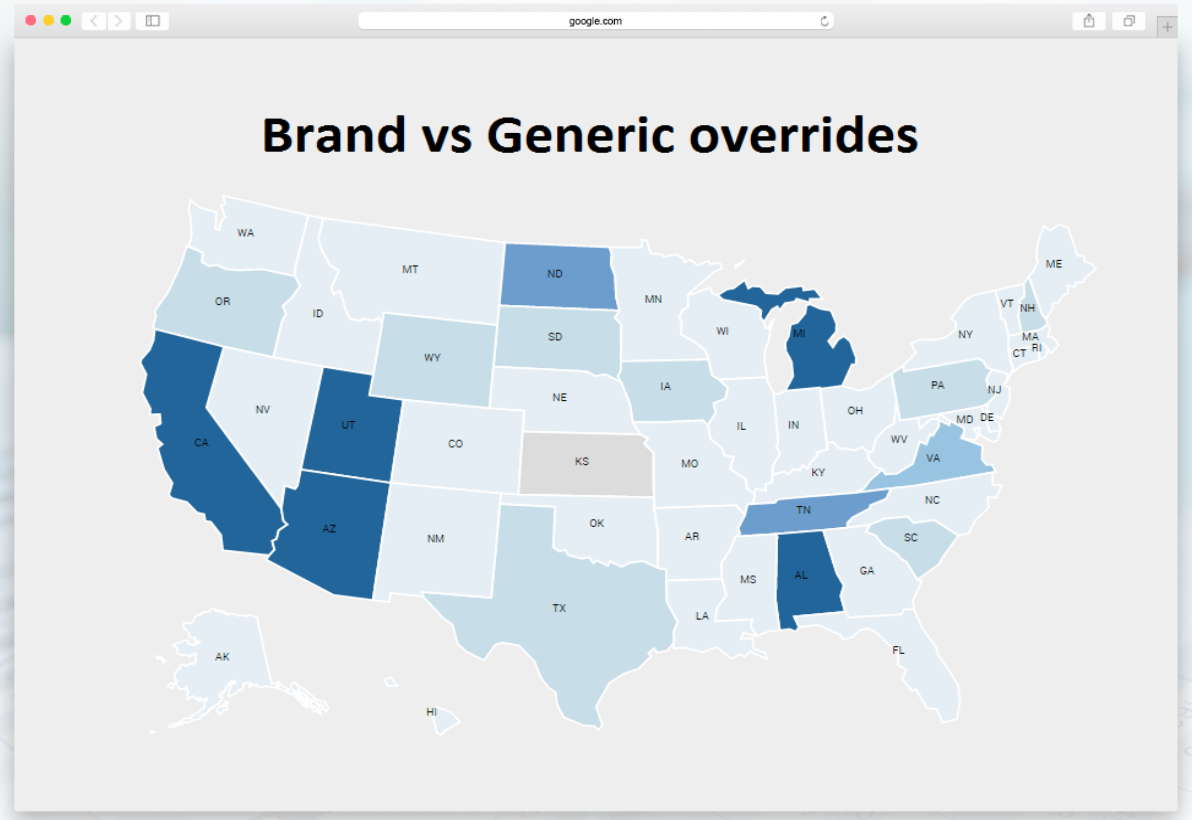
MEDICAL PROCEDURES DISTRIBUTION



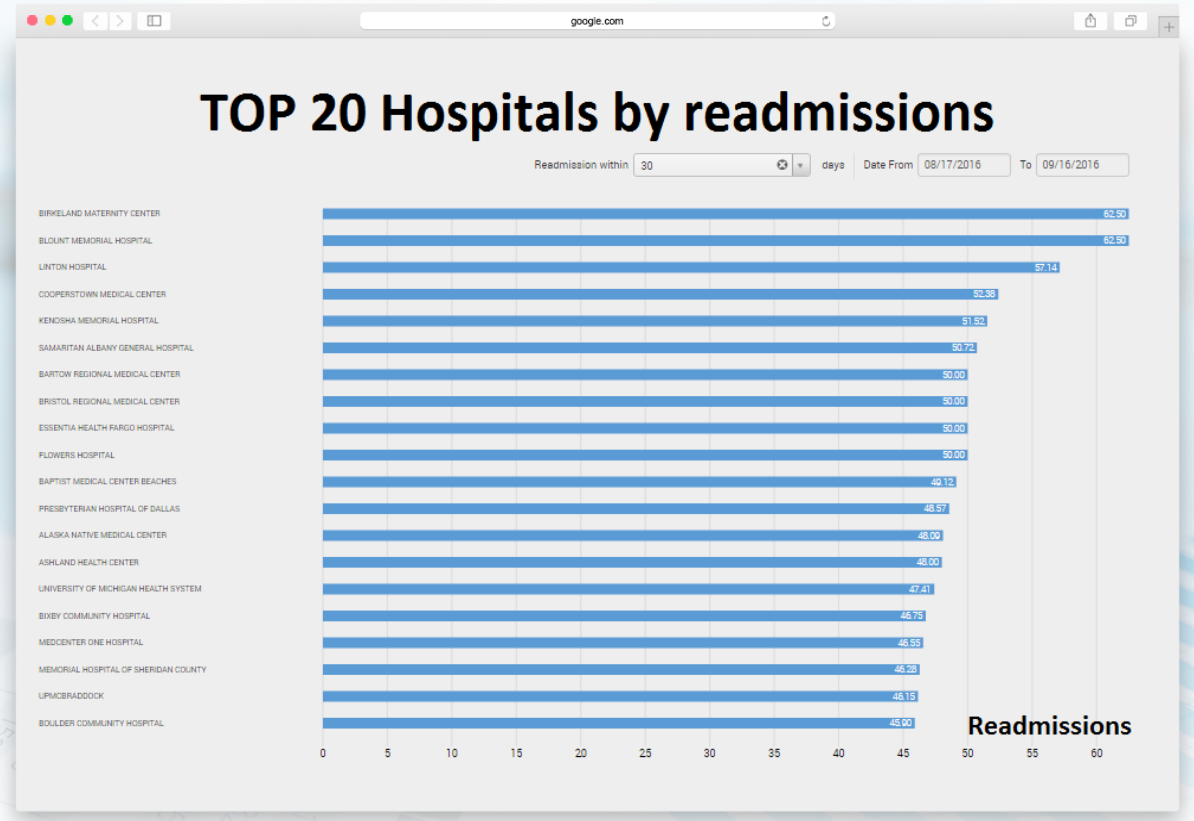
COST OF SERVICES VS PRESCRIPTIONS



DEEPER BUSINESS INSIGHTS & RESEARCH ENABLED



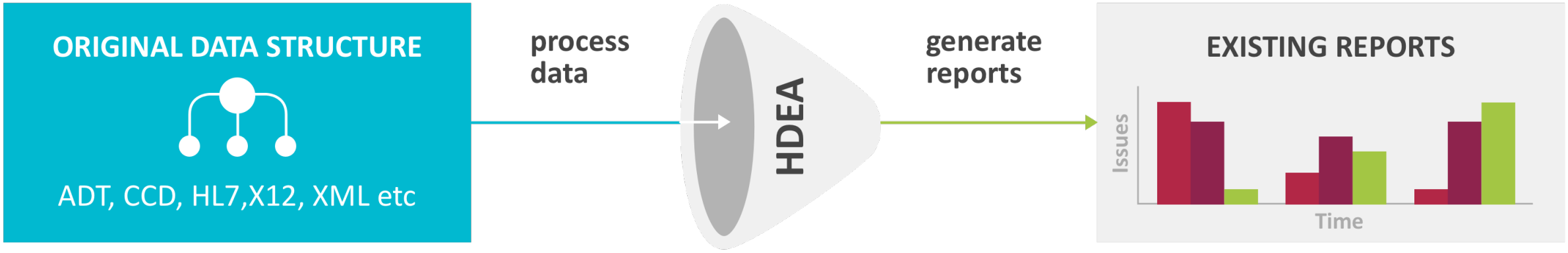
Analyzing Brand vs Generic Meds overrides

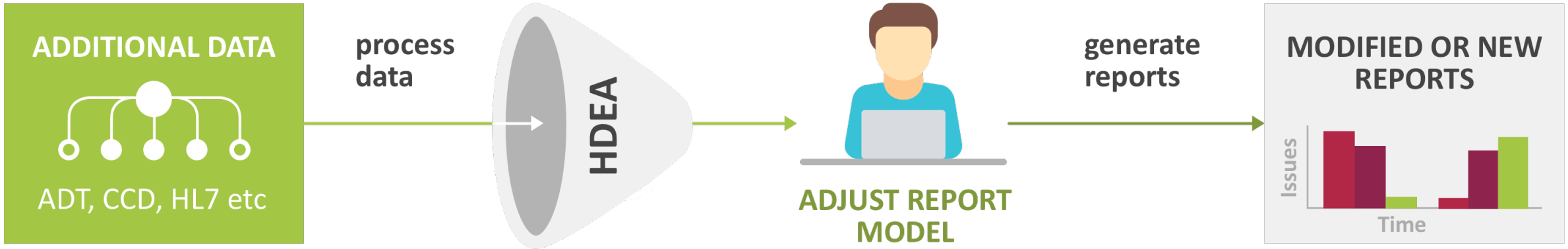


Analyzing Readmissions patterns

AD HOC REPORTING

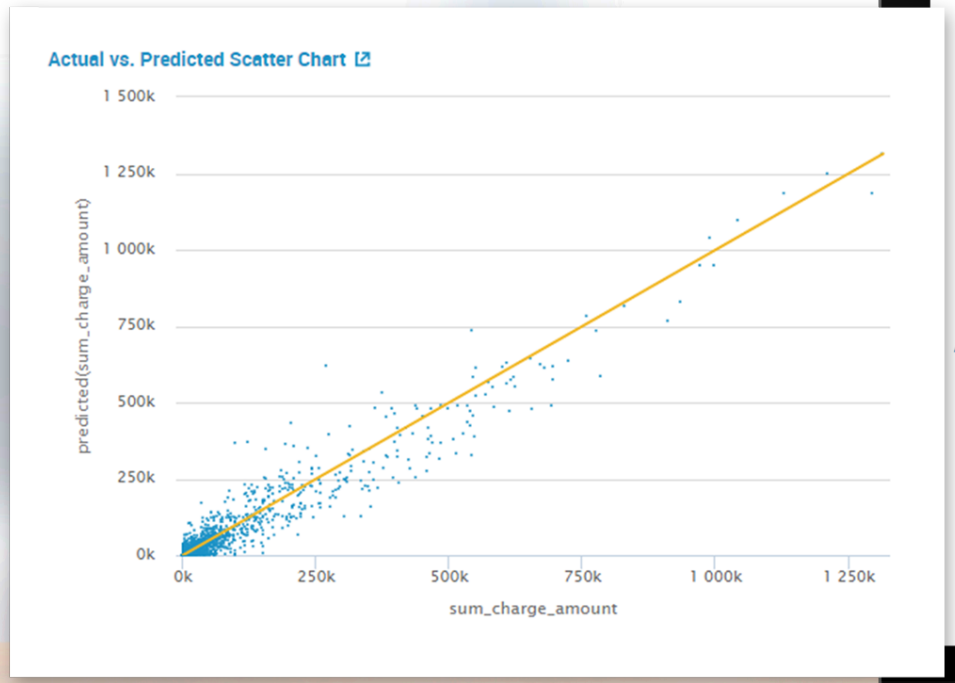
Handling data structure changes and format changes without IT involvement

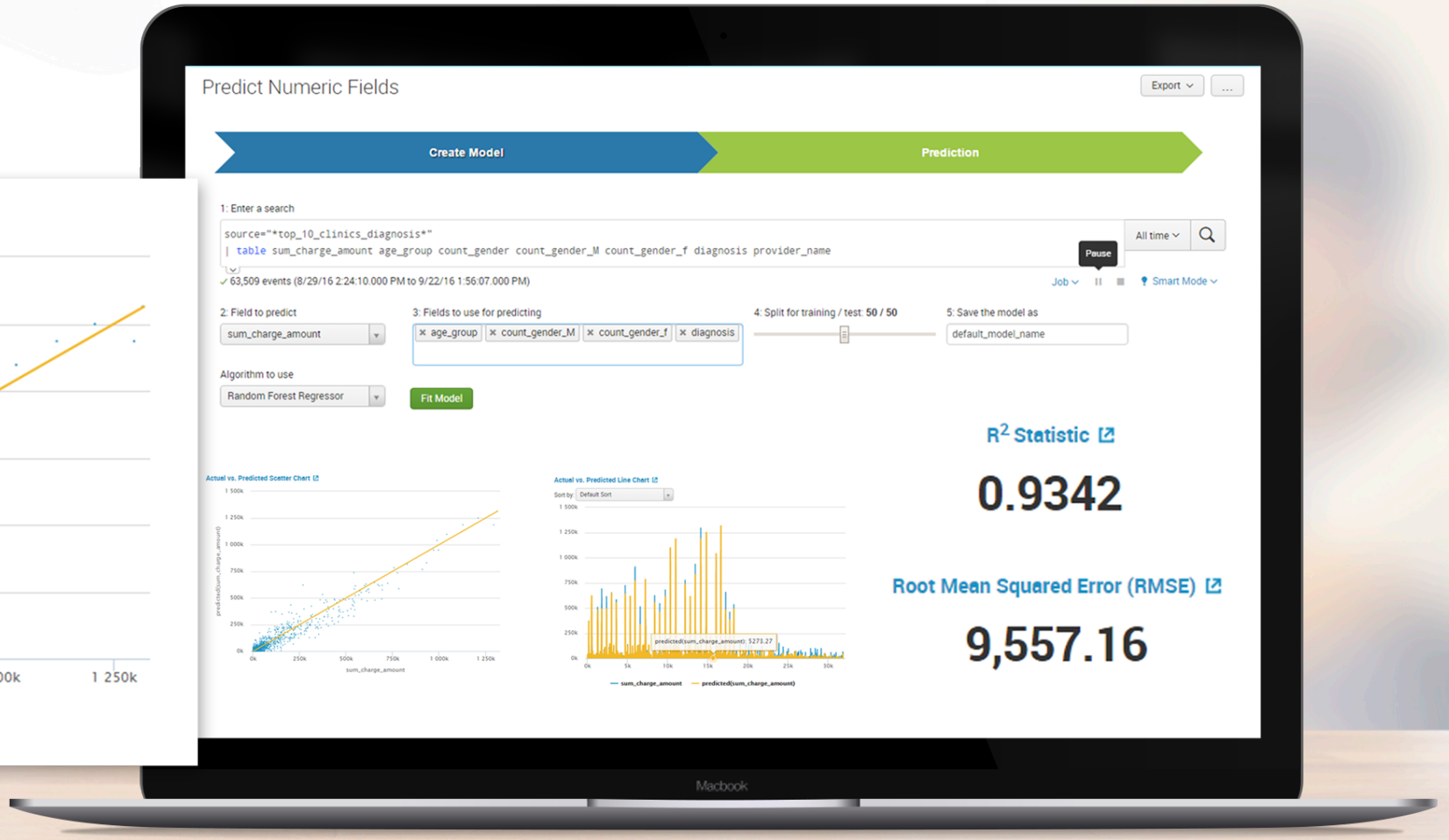




USE PREDICTIVE ANALYTICS TO DISCOVER FUTURE TRENDS

Predicting future claims costs for a selected diagnosis





PREDICTIVE ANALYTICS CAPABILITIES ENABLERS

Predicting future claims cost for selected diagnosis

Predicting high-risk patients

Predicting drugs consumption with seasonality

Predicting system failures

OPERATIONAL DATA FLOW CONTROL IS CRITICAL

DATA QUALITY TRENDS

OVERALL ISSUES DISTRIBUTION

ISSUES BY TYPES

ISSUES BY HC PROVIDERS

REAL-TIME DATA CONTROL ENABLERS

HDEA

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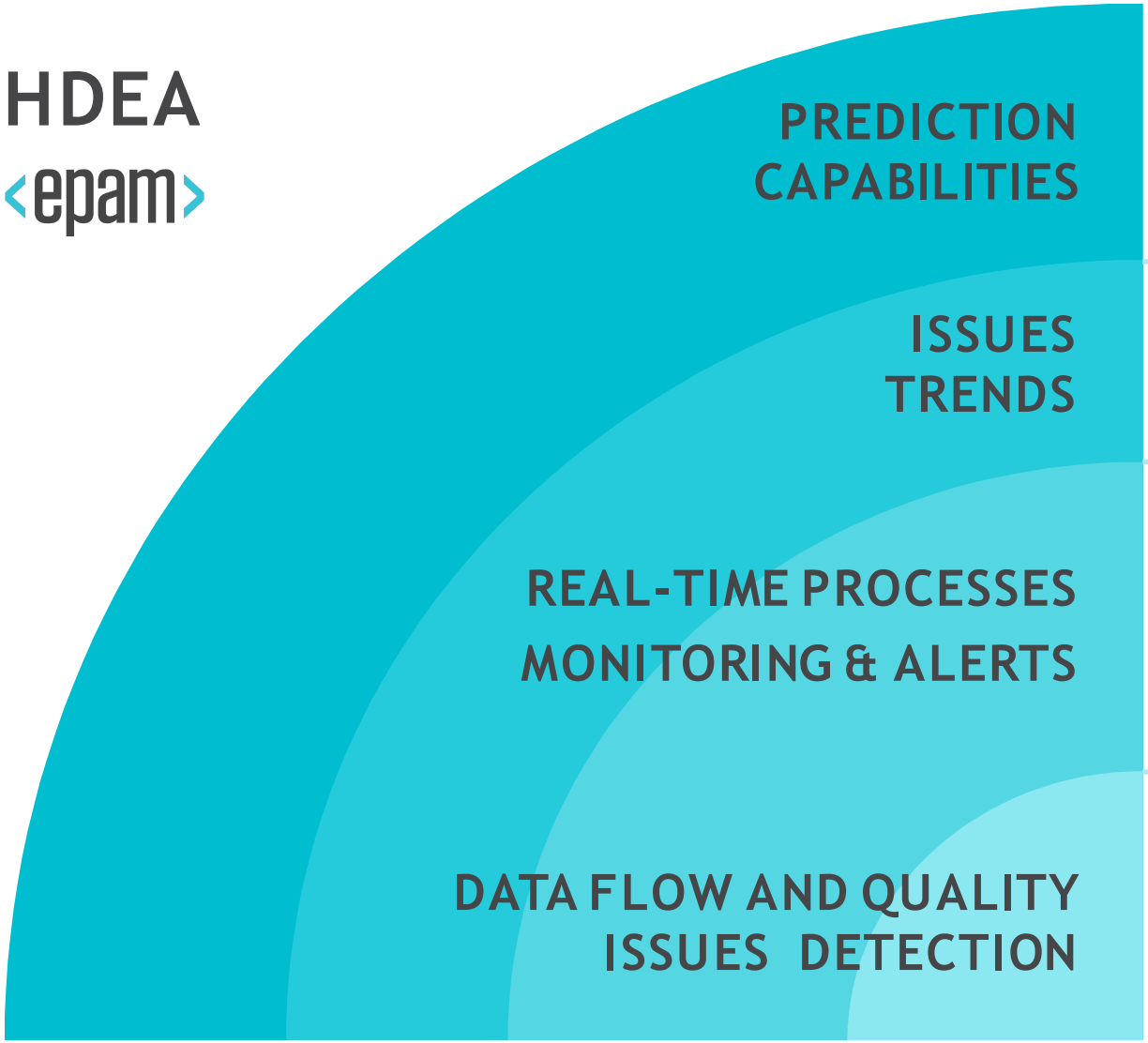

- Predict system failures
- Predict systems outputs
- Predict system scalability

- Issues trends and statistics
- Errors statistics

- Manage execution time thresholds
- Detect Slow Processes
- Detect Stuck Processes
- File transfer monitoring

- Data Integrity errors detection
- Data consistency errors detection
- Data parsing errors detection

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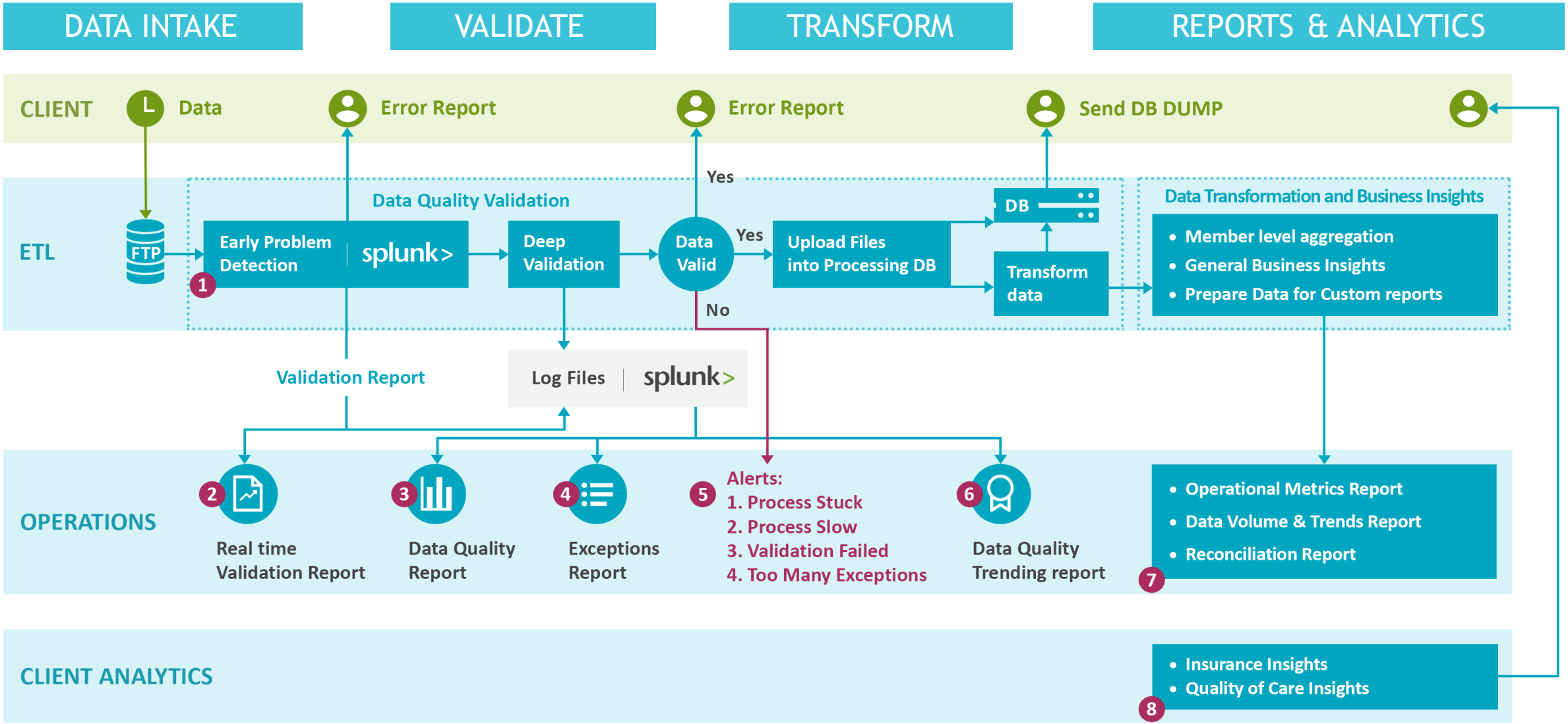
EPAM Solution Demo

HEALTHCARE DATA PROCESSES & HDEA CONCEPTS



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Lessons Learned

LESSONS LEARNED

1. **POWERFUL PLATFORM**

   Splunk provides really powerful, flexible, and easy to use platform, including Machine Learning primitives and algorithms.

2. **EASY TO BUILD**

   Splunk app development is not rocket-science. A team of 5 software engineers delivered in 3 months.

3. **RICH UI + EXTENDIBILITY**

   Rich out-of-the-box Splunk capabilities for UI development allow to create the ad-hoc report from scratch.

4. **PERFORMANCE, KEY FEATURES**

   Indexing capacity, real-time queries, ability to monitor online processes, various kind of alerts provide ways to achieve success.

POTENTIAL AND FUTURE ENHANCEMENTS

AREAS FOR FURTHER DEVELOPMENT AND IMPROVEMENTS

- Commercialization.
- Additional features (quality of service, care circles detection, cost effectiveness, extended and detailed fraud detection analytic).
- Visualization improvements (drilldowns and multi-dimensional searches).
- Robust model for all X12 transaction types. Processing and ad-hoc data processing

EPAM + SPLUNK COOPERATION FOOTPRINT

- Ability to deliver SPLUNK – based solutions from within EPAM labs.
- Help in testing, prototyping, verification of early versions of Splunk products.
- Ability to deliver EPAM vertical industry solutions based on Splunk products and EPAM domain knowledge.
- Collaborative knowledge and key assets will be shared with Splunk community.

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