Smart Work for a Smarter Planet

Implement Business Rule Management
System for Financial Industry
(Building Agility into Processes & Decisions)

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# How to improve banking offer acceptance by a factor 10 & generate M$ in revenue lift?

Real time up/cross-sell & credit decisioning

Situation

- **Lost opportunities**
  - Bank is very customer focused, yet feeling of lost opportunities in wallet share
- **Hardship in efficiently & accurately executing cross-sell/up-sell offers**
  - Done at the branch based upon manager/client relationship
  - Manual & cumbersome: client information in many disparate sources, lack of integration with legacy origination, multiple screens…
- **Propose and… hope**
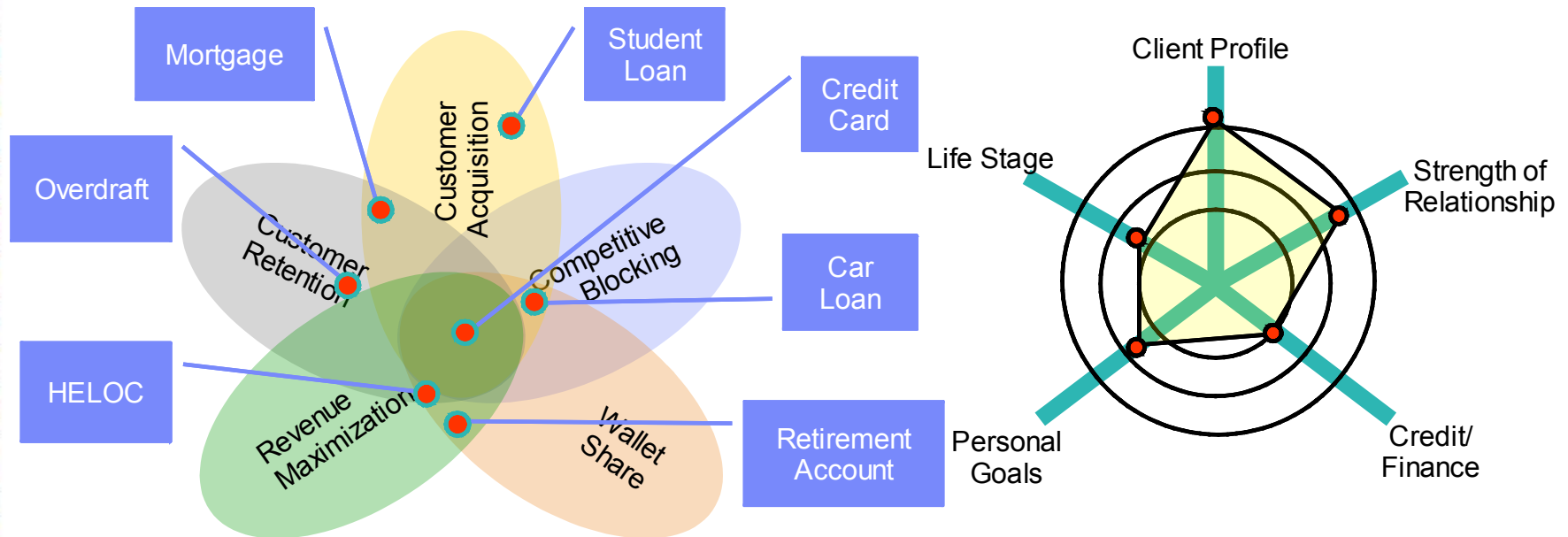
G500 Bank – Credit Decisioning, Up/Cross-sell (continued)

Fact: G500 Commercial Bank revamps decision support systems to improve experience & interaction with 10M+ personal & business customers

Benefits

- Enhance the client experience by providing personalized financial advises during credit application
- Drive "share of wallet" growth with optimized cross-sell, while managing risk
- Maximize opportunities for best customers & solidify customer relationship
- Increase growth rates with targeted offers to attract more customers from the competition

Key Business Outcomes

- Increased frequency of cross sell offers by almost 2.5 times
- Increased offer acceptance from 3% to 20%-30%
- Anticipate growth rates to exceed business case benefits

Agenda

- Change & the ROI impact of BRMS in Financial Services
- Improved SOA & streamlined processes with BRMS
- Best practices - Case briefs
- Key take-aways

Is your organization ready for change?

IBM Global CEO Study 2008

83%
Expect substantial or very substantial change

The change gap
Triples
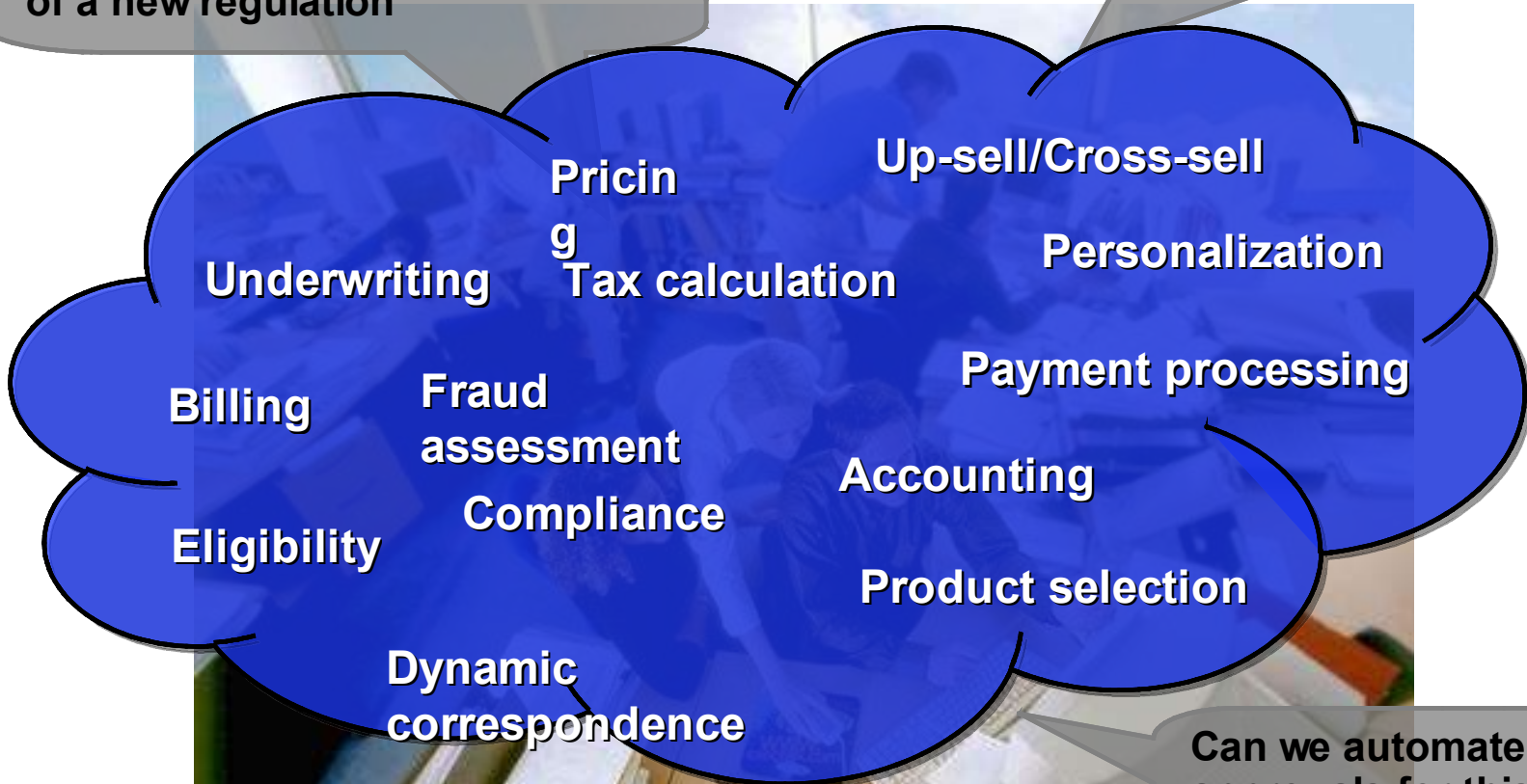
98%
Plan business model changes

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Business Decisions are everywhere…

We need to add an eligibility check to meet the requirements of a new regulation

Let's create a special offer for our credit grade A+ customers in Seoul

Pricing

Up-sell/Cross-sell

Underwriting

Tax calculation

Personalization

Billing

Fraud assessment

Payment processing

Compliance

Accounting

Eligibility

Product selection

Dynamic correspondence

Can we automate approvals for this type of application?

and changing frequently…

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Traditional approach for managing change

Traditional approaches lead to

💣 Reduced organizational agility
💣 Reduced employee productivity
💣 Increased load on IT

Where Business Rules typically exist
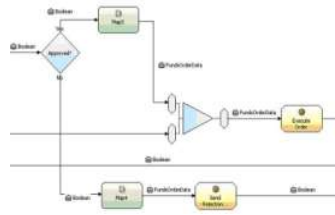

Applications

Documents Databases

People

Processes

Issues

- Rules are hidden in code or isolated within the organization

- Changes are hard to track and maintain over time

- Rules used by systems have to be programmed and require IT resources

- Duplication and multiple versions of the same rules

- Lack of auditability, traceability

- Decision changes cannot be easily tested or simulated

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Easy, safe, reliable change with BRMS

```
if
    all of the following conditions are true :
            – the age of the driver is between 18 and 21
            – the number of accidents the driver has been involved is at least 1
            – the number of traffic tickets the driver has received is at least 1

then
    add a $ 8 surcharge to 'Auto Quote Response' , reason: "Young driver surcharge" ;
```

Where Business Rules typically exist

```
#ifdef __WIN__
    /*
    Before performing any socket operation (like retrieving hostname
    in init_common_variables we have to call WSAStartup
    */
    {
        WSADATA WsaData;
        if (SOCKET_ERROR == WSAStartup (0x0101, &WsaData))
        {
            /* errors are not read yet, so we use english text here */
            my_message(ER_WSAS_FAILED, "WSAStartup Failed", MYF(0));
            unireg_abort(1);
        }
    }
#endif /* __WIN__ */

    if (init_common_variables(MYSQL_CONFIG_NAME,
                    argc, argv, load_default_groups))
        unireg_abort(1);                      // Will do exit

    init_signals();
    if (!(opt_specialflag & SPECIAL_NO_PRIOR))
        my_pthread_setprio(pthread_self(),CONNECT_PRIOR);
```
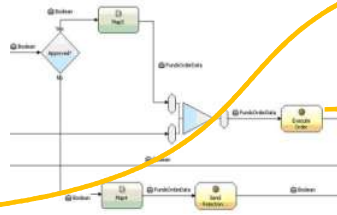
Applications

Documents
Databases

People

Processes

Business Rule Management System

Rules are
Defined,
Analyzed &
Maintained

User Tools

Rules are
Stored &
Shared

Rule Repository

Rules are
Deployed,
Executed &
Monitored

Execution Server

Business benefits in Financial Services

Reduce time/cost

93% reduction of processing time 100s of man-days saved per year on compliance checks

(Commercial Lending)

More personalized client interactions

10x improvements in acceptance of cross-sell offers

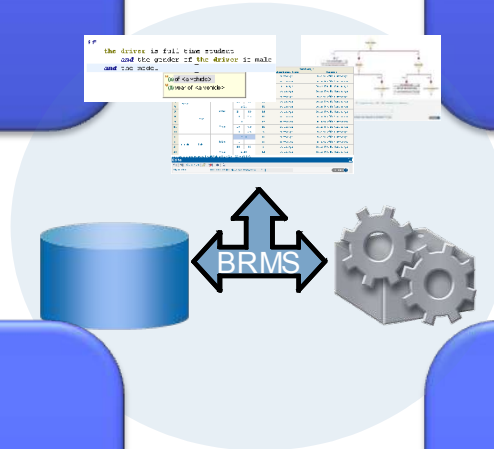*(Retail Banking)*

BRMS

Internal/external compliance

Support of regulations that vary by customer location & product line

(P&C Insurance)

Business & IT alignment

Reduced new policy implementation time & manpower by 70%

(Pension Administration)

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Agenda

- Change & the ROI impact of BRMS in Financial Services
- **Improved SOA & streamlined processes with BRMS**
- Best practices - Case briefs
- Key take-aways

BRMS and IBM

ILOG BRMS is *the IBM technology* for creating, maintaining and implementing decision services…

Ready for
IBM. | **SOA**
Specialty

- Provides a convenient communication channel between IT & business teams

- Allows for easy implementation & reuse of business rules across the enterprise

- Offers flexible options for progressive IT modernization

Reuse

Alignment

BRMS

Modernization
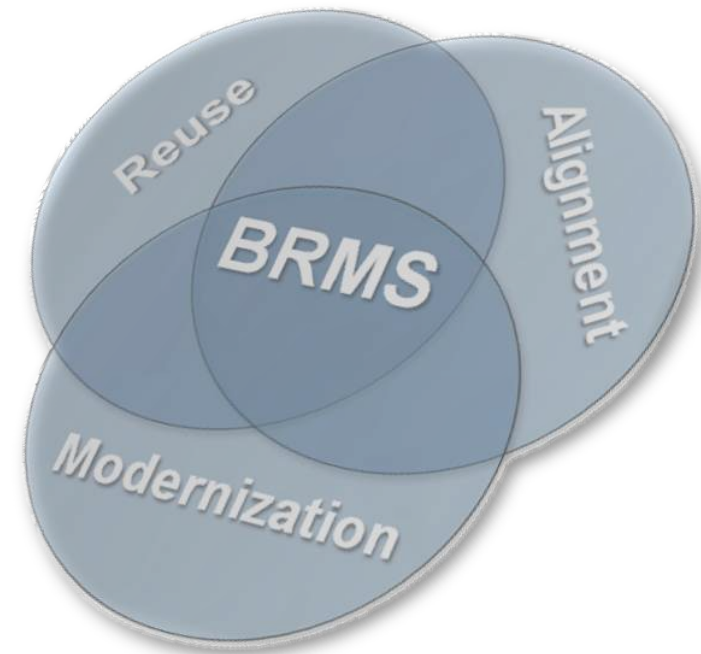
Success @ Vision Service Plan

Application Type: Claims processing

Situation
- Rules were hard-coded
- Creating bottlenecks and impacting productivity
- No visibility into how rules were changing
- Took 1-3 months to implement changes

Goals
- Improve productivity and efficiency of claims system
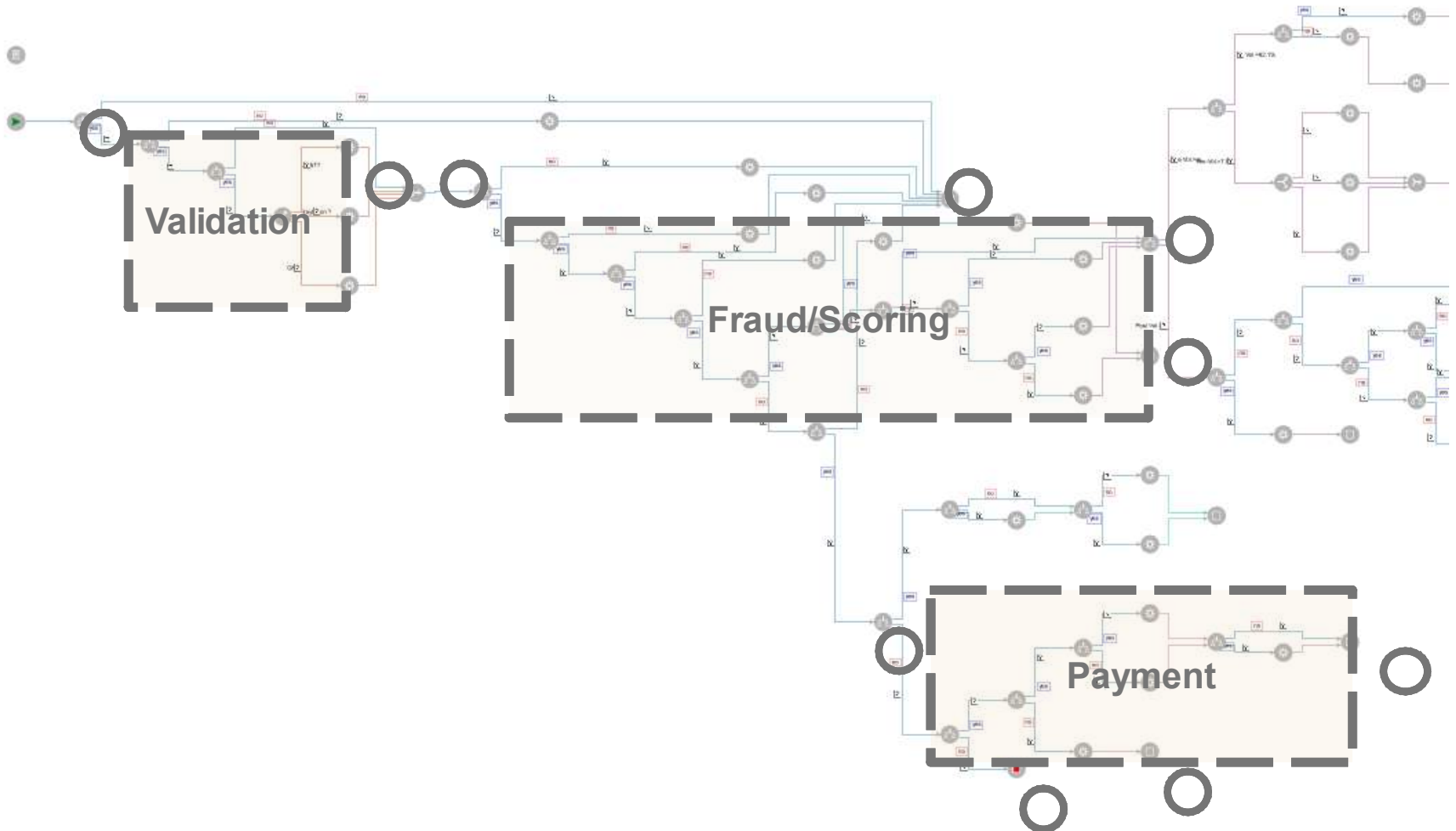- Effectively process incoming claims

Solution
- ILOG BRMS used for claim validation & adjudication
  - ILOG BRMS rules used to determine what a claimant is entitled to & if claim can be priced
- Also leveraging BRMS for underwriting.

Benefits
- Achieved **pass-through-rate of 80%+**
- **Speed to market gain over 50%**
- Changes to business rules now implemented in days
- Achieved significant productivity gain on **1M+ claims** processed on a monthly basis
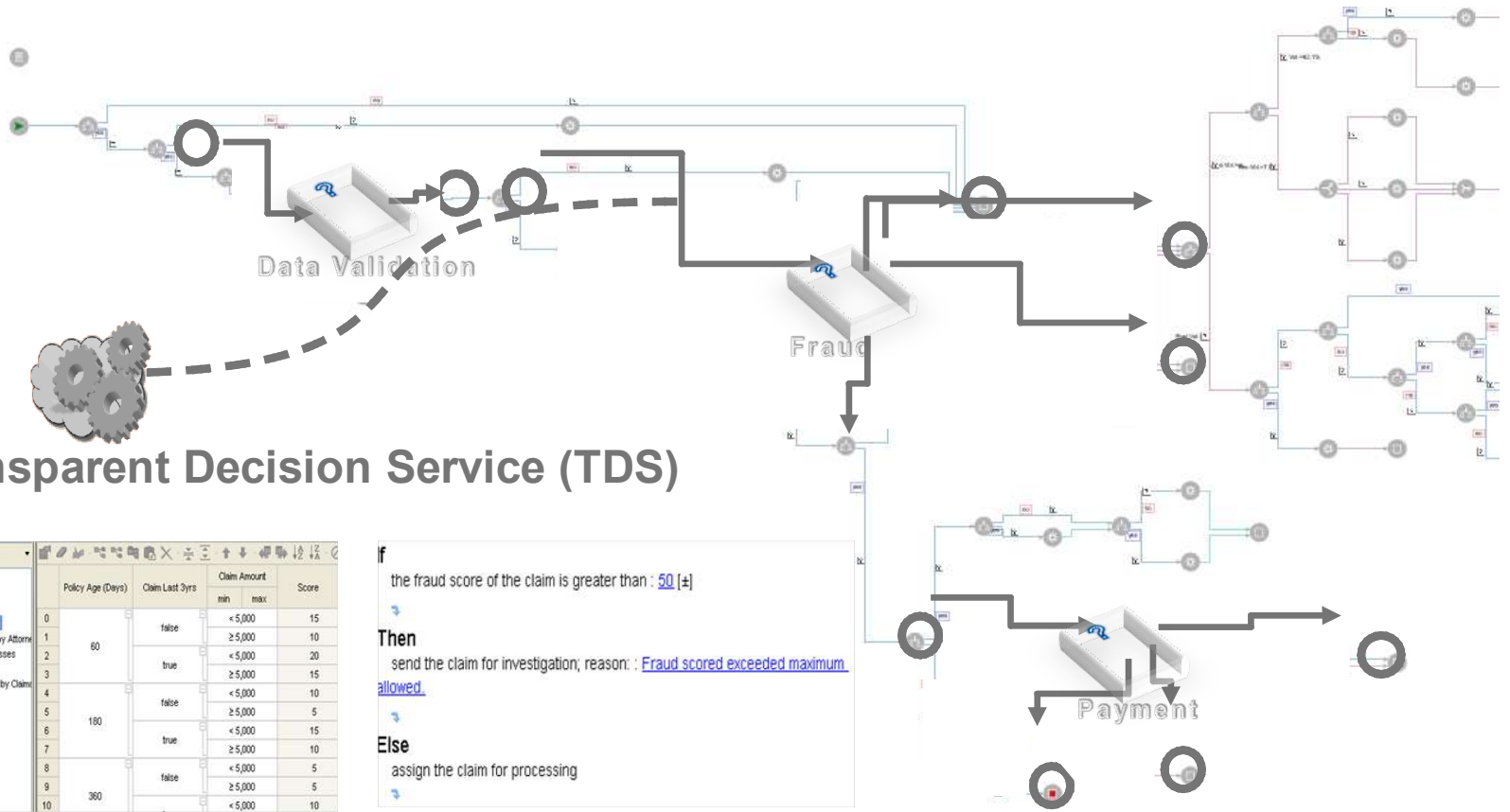
Externalize your business decisions

Externalize your business decisions

Data Validation

Fraud

Payment

Transparent Decision Service (TDS)

Enhanced agility for your processes

✓ Streamline processes
✓ Facilitate change
✓ Re-use assets
✓ Maximize automation
✓ Improve governance
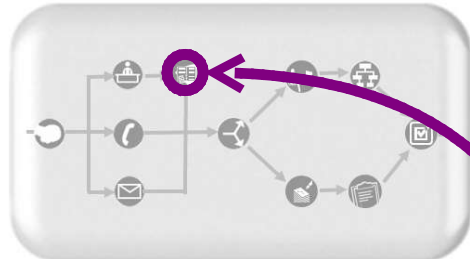
BPM driven claims process
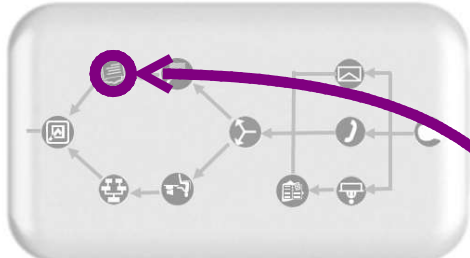
BPM driven underwriting process
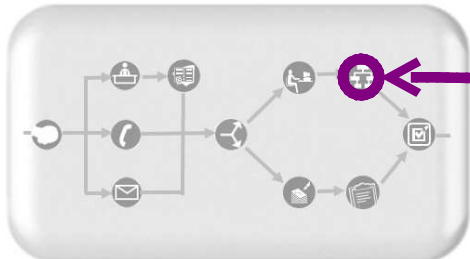
CRM driven cross-sell process

Risk assessment Decision Service
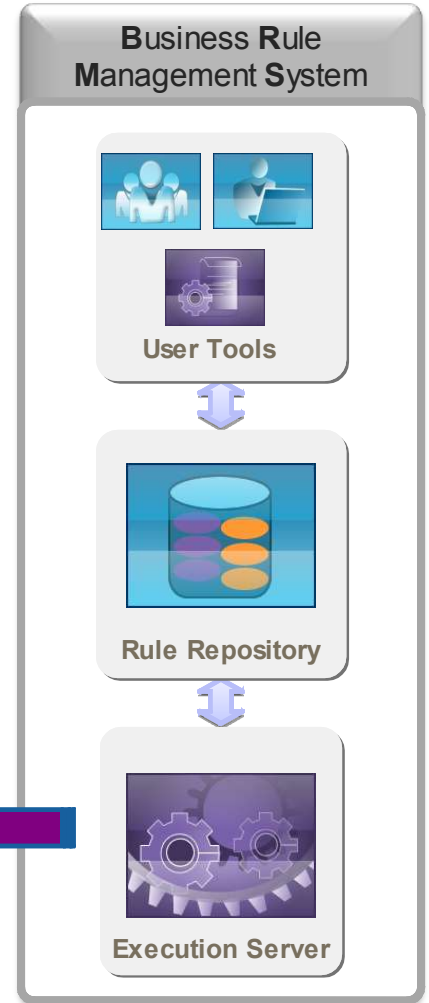
Business Rule Management System

User Tools

Rule Repository

Execution Server

SOA

Agenda

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- **Best practices - Case briefs**
- Key take-aways

BRMS in Banking - Examples

- Commercial, Wholesale, Retail Banking
  - Customer Sales Optimization (Cross-Sell Up-Sell)
  - POS Channel Enhancements
  - Product offer engine/best-fit
  - Campaign management, account management
  - Consumer, commercial, mortgage lending
  - Customer suitability & on boarding (KYC)
  - Pricing & fee management
  - Sales network commissioning...
- Investment Banking
  - Portfolio management & optimization
  - Portfolio analysis, management, valuation
  - Permissions on portfolio & counterparties
  - Order management, routing, automated execution
  - Order crossing / algorithmic trading
  - Reconciliation, confirmation & settlement
  - Managing « collaterals » / optimization...
- Back Office
  - Regulatory compliance (AML, SEC, Basel II, SOX)
  - Automated accounting & reporting (IFRS/GAAP reporting)
  - Reference data management
  - Operational controls (alerts, patterns)...

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BRMS in Insurance - Examples

- Underwriting
  - Risk, eligibility
  - Product selection
  - Client segmentation
  - Pricing
  - Sales commissioning
  - Member enrollment

- Claims Processing
  - Validation
  - Invoice validation
  - Case management
  - Adjudication
  - Payment
  - Fraud detection
  - Litigation management

- Back Office
  - Accounting
  - Internal controls

Decision Management & Governance

Best Practice

Success @ Travelers

Application Type: Insurance underwriting

Situation
- Took nearly 5 months to implement risk assessment and rate changes
- Unable to accurately assess risk and subsequently offer the best rate consistently
- Only 17% of small commercial policies qualified for straight thru processing

Goals
- Improve speed-to-market for implementing new risk classifications, rate and product changes
- Drive a more profitable book of business

Solution
- Created a flexible underwriting system where ILOG BRMS is used throughout the process for such functions as eligibility, risk assessment, referrals & pricing

Benefits
- Achieved **speed to market gains of over 50%**
- Improved **pass-through-rate from 17% to approx. 76%**
- Increased **quotes per agent by 26%** & **new business flow by 50%**

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Change Management

- Currently Averaging 3,000 New/Changed Rules Per Month

- Monthly and Quarterly Releases
  - Complex Rules or Rules Requiring Changes to Business Object Model (BOM)
  - Performed by IT

- Bi-Weekly Releases
  - Introduce New Low Complexity Rules
  - Modifications to Existing Rules
  - Performed by Business Analysts

Next Steps

- Increase Scalability
    - Initial Implementation Accounted for 20,000 Rules
    - Currently at 40,000 Rules
    - Reconfiguring to Handle 200,000 Rules
- Additional Functionality
    - Forms Determination
    - Renewals

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Incremental Deployment & Reuse

Best Practice

Success @ Top F500 Commercial Bank

Application Type:	Loan origination

Situation
- Existing System couldn't support automated underwriting
- Inconsistency in customer counselling & scenario decision
- IT staff frustrated with tedious maintenance of similar business rules in multiple systems

Goals
- Lower processing cost
- Augment capacity without increasing staff
- Shorten time to market

Solution
- ILOG BRMS-based Enterprise Decision Engine exposed as a service in lender's SOA
  - Phased approach with initial focus on automated underwriting
  - Used across channels (retail, wholesale, online)
    & product lines: mortgage (prime, ALT-A), HELOC, student...

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Rationale & Plan

"Think big. Start small. Build incrementally."

Options

- Fixed
- Adjustable rate
- Interest only…

Decisions

- Eligibility
- Pricing
- Credit scoring
- Condition & stipulations
- Referral, case management
- Product optimization
- Deal repair / counter offers…

Programs

- Prime
- ALT-A
- Home Equity
- Student…

Channels

- Retail
- Wholesale
- Web…

Project Timeline – Automated Underwriting System Example
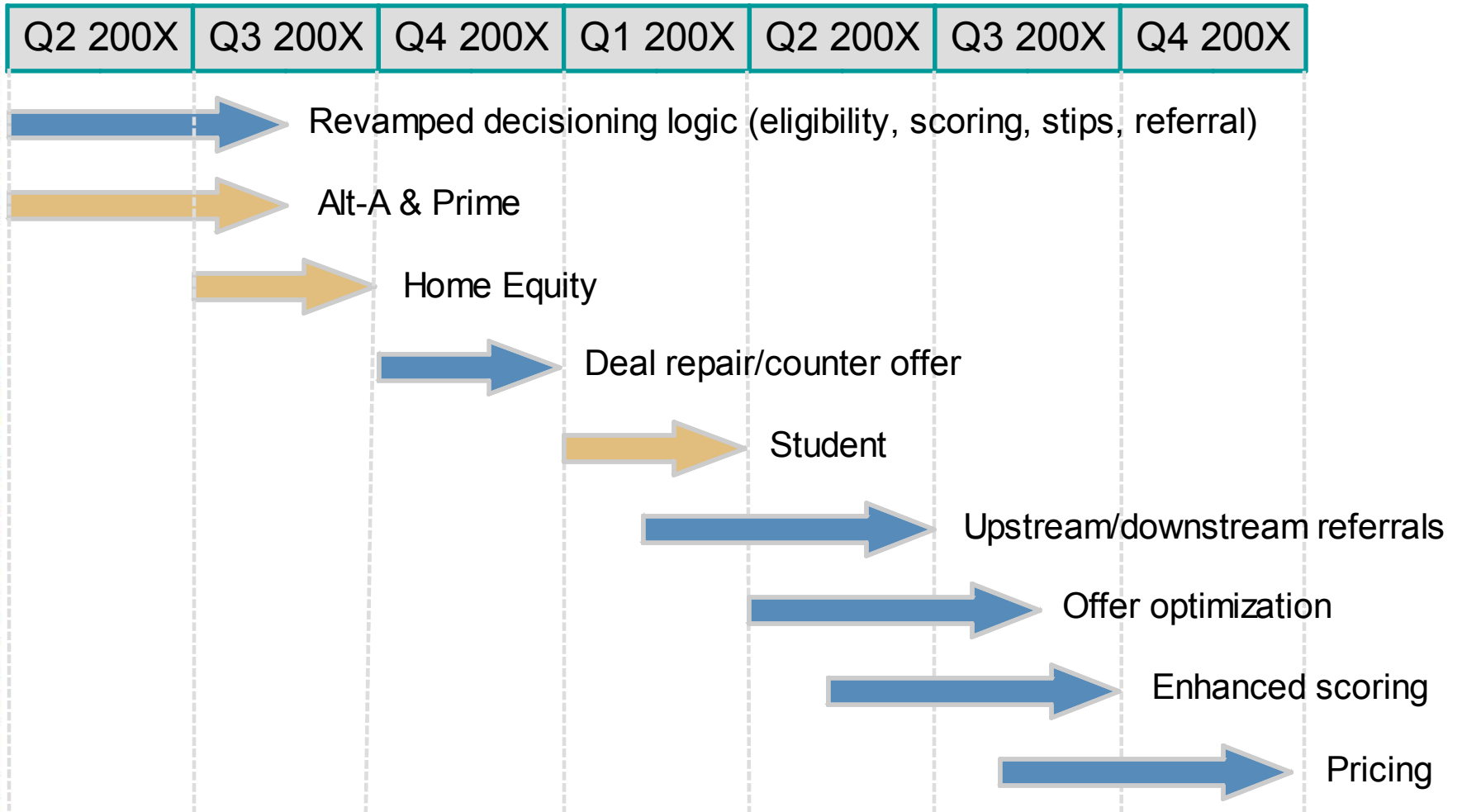
Q2 200X	Q3 200X	Q4 200X	Q1 200X	Q2 200X	Q3 200X	Q4 200X

Revamped decisioning logic (eligibility, scoring, stips, referral)

Alt-A & Prime

Home Equity

Deal repair/counter offer

Student

Upstream/downstream referrals

Offer optimization

Enhanced scoring

Pricing

Success @ Top F500 Commercial Bank

Application Type: Loan origination

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    & product lines: mortgage (prime, ALT-A), Home Equity, student...

Benefits
- **5X decrease of AU maintenance manpower**
- Loan officer productivity increase & training time reduction
- **From 3X to 10X time to market improvements**
- Enhanced IT infrastructure to support growth and e-mortgage initiative

Functional architecture
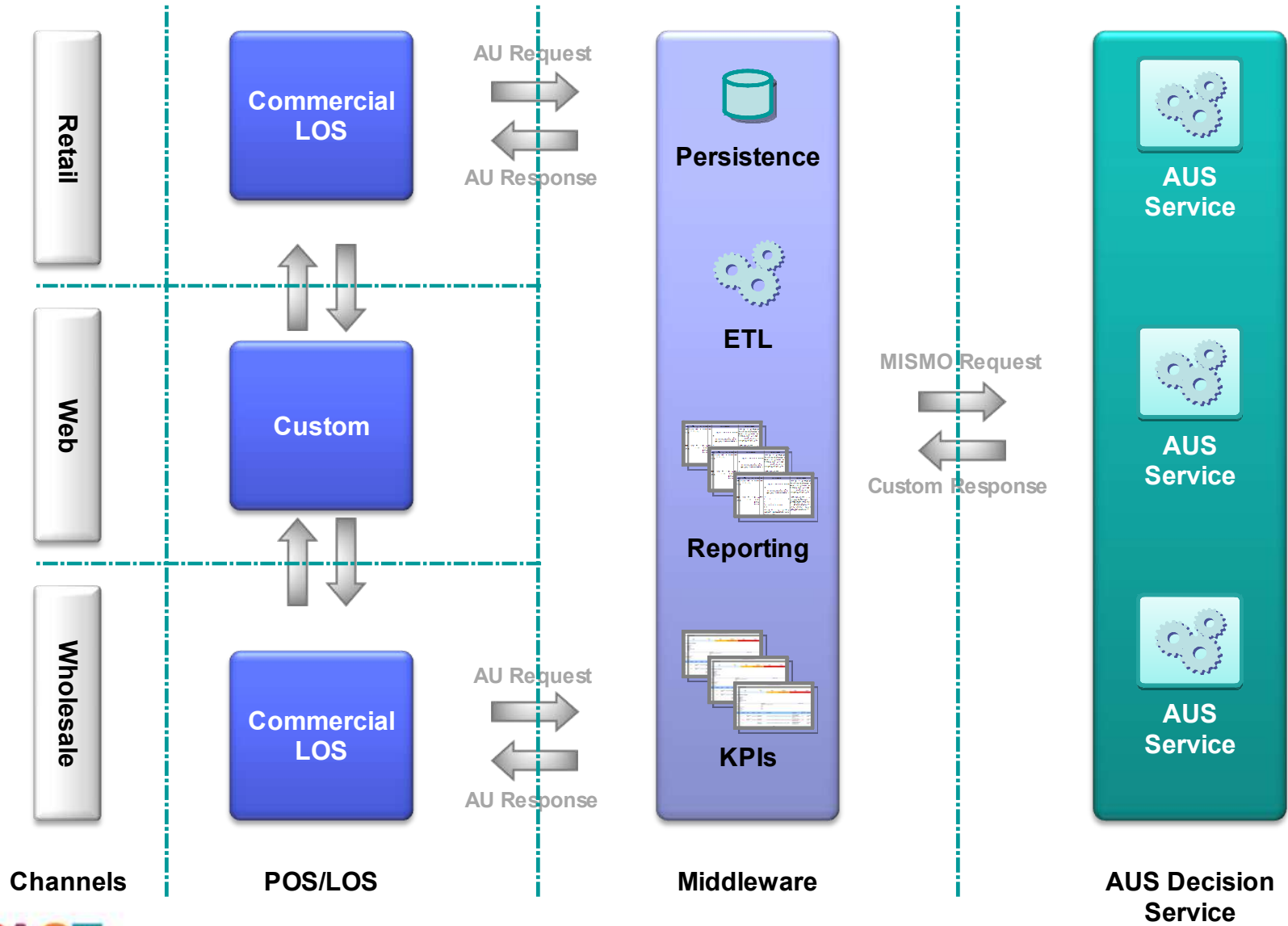
Retail

Commercial LOS

AU Request

AU Response

Web

Custom

Wholesale

Commercial LOS

AU Request

AU Response

Persistence

ETL

Reporting

KPIs

MISMO Request

Custom Response

AUS Service

AUS Service

AUS Service

Channels

POS/LOS

Middleware

AUS Decision Service

Agenda

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- **Key take-aways**

We help global Financial Organizations...

- Improve speed-to-market for new or updated products & services

- Implement policy changes in days or real-time vs. months
- Quickly adapt portfolio of offering to market conditions & risk objectives

G500 Commercial Bank
- 3X time to market improvements
- Ongoing bi-weekly updates, instant fixes enabled

Natixis Financement – EMEA
- 15 days vs. 4 weeks for new product roll out
- 1000s of rules to support full consumer lending "factory" chain

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We help global Financial Organizations...

- Improve speed-to-market

- Improve operational efficiencies

- Reduce processing costs
- Reduce processing cycles
- Shift from transactional to strategic focus

Bank of the West – Americas
- 15 days to 1 reduction of credit review & approval process

CITIC – China
- Instant decisioning (mins) of loan request at the branch
- Hyper growth support of credit card user base through scalability

PMI – Americas
- 6X training time reduction for risk and rate updates

We help global Financial Organizations...

- Improve speed-to-market

- Improve operational efficiencies

- Acquire & retain customers through focus on best products for best prospects

- Enable best-fit / near-fit / counter offers at the point of sale
- Deliver more effective pre-qual. & targeted marketing campaigns
- Increase wallet share thru up-sell/cross-sell & dynamic offer bundling

G500 Commercial Bank
- 4 x increase in monthly loan volume
- 15% increase in average loan size
- Reduced underwriting costs by 78%
- Increased customer retention by 3%

We help global Financial Organizations...

- Improve speed-to-market

- Improve operational efficiencies

- Acquire & retain customers

- Improve quality of decisions

> • Create more customized, granular & consistent decisioning
> • Render decisions in real time

Axa Banque – EMEA
• Daily collection & recovery decisioning on more than 30,000 customers

Equifax – Americas
• Combined applications processing & decisioning platforms into one integrated system InterConnect

We help global Financial Organizations...

- Improve speed-to-market

- Improve operational efficiencies

- Acquire & retain customers

- Improve quality of decisions

- Ensure consistent adherence to varying regulation & compliance mandates

• Increase transparency, auditability & traceability

Commerzbank – EMEA
- Ensure Basel II compliance for credit rating applications
- Support for highly-complex customer rating across commercial & private bank customers

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Thank You

Questions & Answers

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