



Automated
Application
Analysis
&
Business Rules
Extraction

cm FIRST

Rethink Modernization

89. z/OS zExpertenForums in Bad Horn

Our Company



Headquartered in Austin, TX
Offices in France and Switzerland



Partnered with Top Enterprise vendors including CA Technologies, IBM, Sencha



Helped over 400 Enterprises since 2010



Our Mission



“CM First builds the most reliable, rapid and cost effective enterprise software tools to optimize and transform mission critical applications.”

Today's Speaker



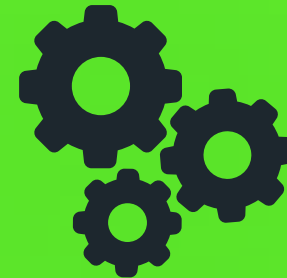
Roger Hammer

Director of Software Development & Services

Challenges for Organizations with Software Factories







Maintaining




Modernizing

CIO

CIO's Concerns*

-  Cybersecurity / Compliancy with International security standards GDPR
-  Legacy Systems top of mind for 890 CIOs polled
-  Intelligent apps, devops and analytics
-  Legacy applications (COBOL) without the skill base





* 2017/2018 Logicalis Global CIO Survey



90%

of IT budgets allocated
to maintenance

Maintenance Challenges

-  Significant Backlogs
-  Retirements / Scarcity of New Resources
-  Reducing DevOps Cycle times
-  Complex, Interrelated Systems

85%

of IT Execs believe legacy is hindering moving to a digital business model

Modernization Challenges



Architecturally complex systems



Lack of documentation



Business rules not fully understood



Managing decommissioning risk

INTRODUCING cm EVOLVE IT®



Highly automated

Scalable

Sophisticated



Demystify legacy apps
with auto documentation



Work at scale; analyze
entire code base



Code structure and quality
management built in



Abstract
business rules

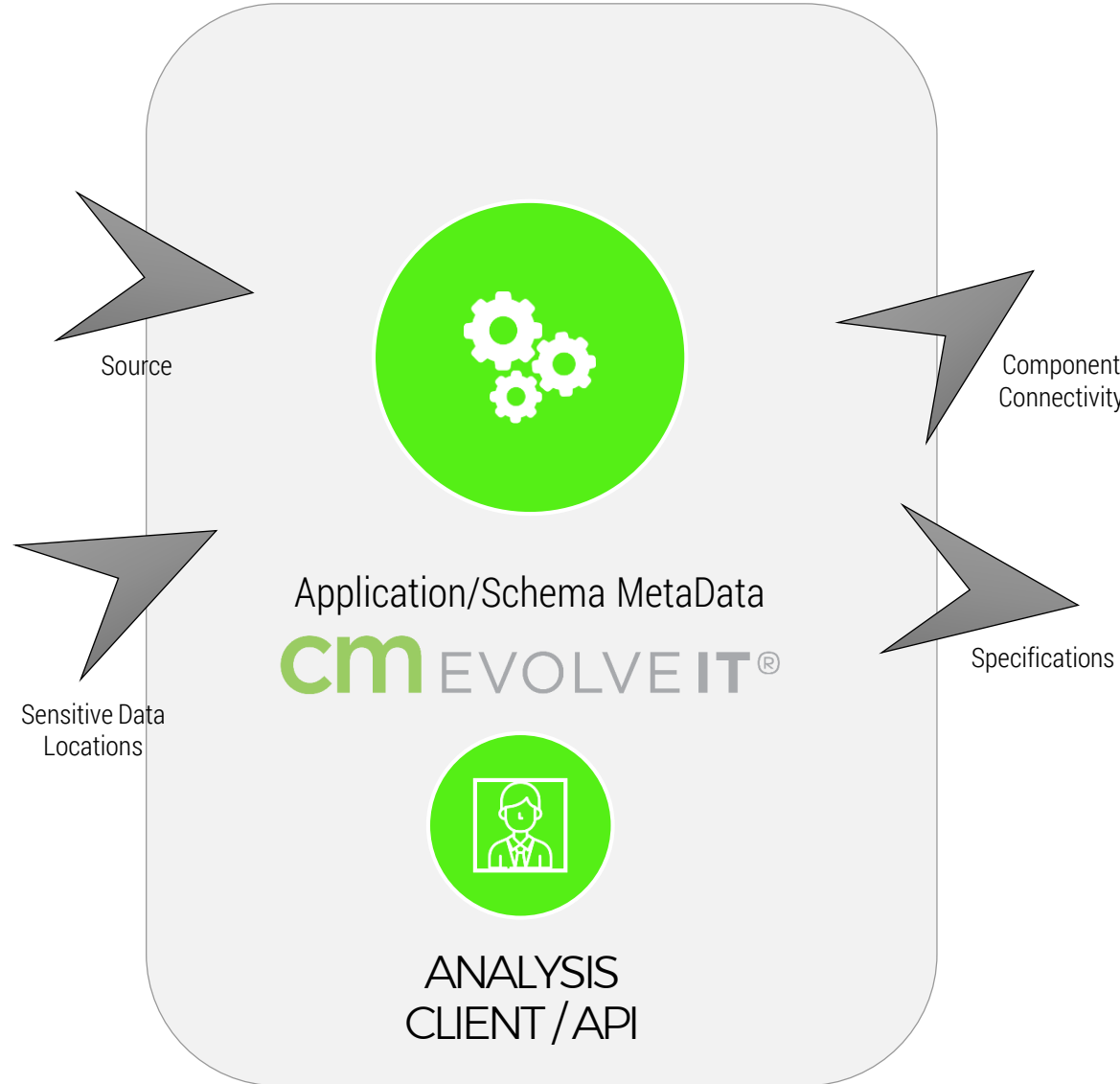
Enterprise Software Factory Ecosystem



Source Repositories
(CA Endevor)



Data Discovery Tools
(CA DCD)



Data Privacy Software
(IBM Guardium / CA DCD)



Security
Business Rules
Test Automation
Other

FOUR USE CASE DEMONSTRATIONS



Use Cases

- Improve Project Quality
- Scope and Plan Projects
- Secure Mainframe Data
- Harvest Business Rules

1. Improve Project Quality

Need ability to:

- Measure quality using objective metrics
- Prioritize remediation
- See trends over portfolio



DEMONSTRATION

2. Scope and Plan Projects

Need ability to:

- Accurately identify assets affected by change
- Assess risks based on metrics/facts
- Create clear documentation
- React to end of project year portfolio planning
 - Timely and accurate Information



DEMONSTRATION

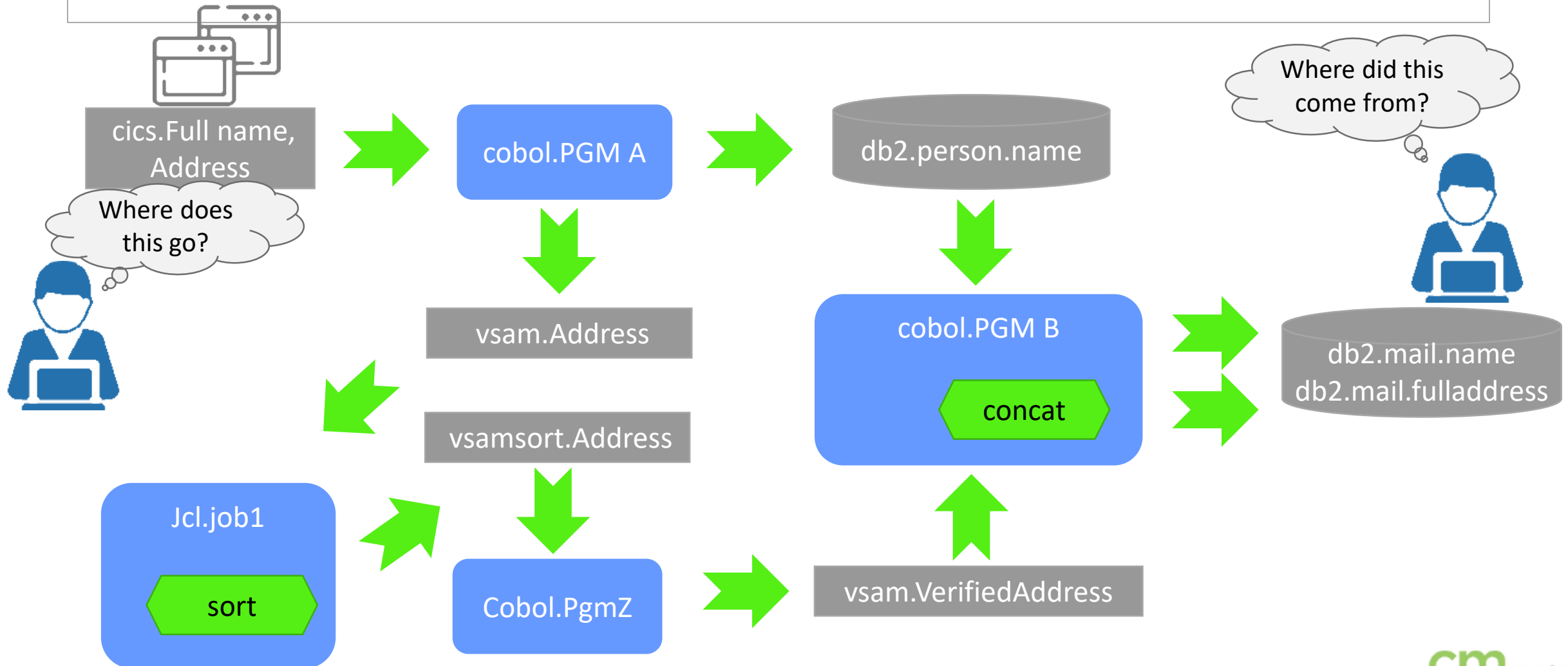
3. Secure Mainframe Data

Need ability to:

- Identify sensitive data
 - Example: IBM Guardium / CA Content Discovery
- Respond to regulations and audits
- Take action in software assets using Data Lineage



Forward and Backward Data Lineage



BUSINESS RULES PROJECTS

Business Rules Challenges

Need ability to:

- Integrate COTS packages with mainframe applications
- Enable digital business automation
- Decommission applications and subsystems
- Track rules for regulation and management



Traditional Harvesting Approach



Read the program code to
find the decisions



Get a definition of how the programs
work rather than business rules



Create a definition of how to
rebuild the current system

CM EvolveIT Business Rules Approach Enables:

The ability to :

- Identify Business Processing based on Application Data Interfaces
- Filter out unwanted current architecture
- Identify Data Flow and Decisions relevant to Business Rules
- Store Data Flow and decisions in user definable Folder structure





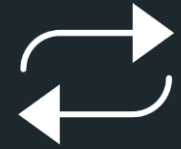
Business Centered Rules Approach



Model the application
with automated capture



Identify application
related business process



Identify data interface
for each process



Define the business
terminology

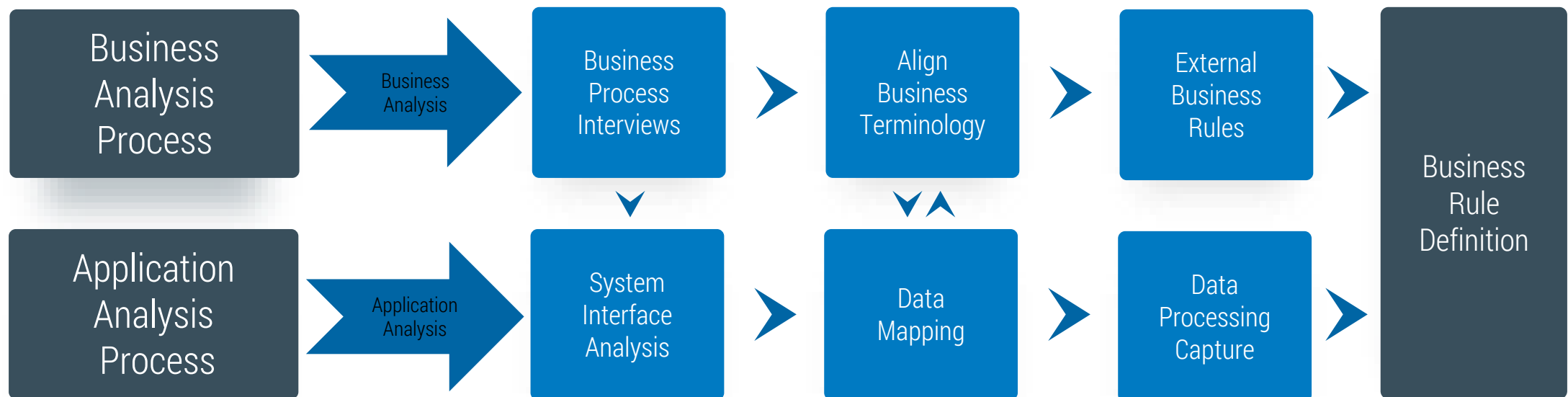


Complete the data
logic trace



Combine to build
business rules

The CM First Group Rules Approach Combines Business & Application Analysis.



CM FIRST
METHODOLOGY IS
TO EXTRACT RULES
WITH SEAMS
THROUGH THE
STACK

External Business Processes

Natural Language Documents

Spreadsheets & Tables

Process Documentation

Each week a Customer

Input Data Interfaces

Messaging

File Input / Output

Screens

Reports

EDI

Legacy Applications

Schedule

Batch Jobs

COBOL Programs

Copybooks

Database

applied to outstanding balance

Output Data Interfaces

Screens

File Output

Reports

Customers

default 2% interest

Each month a customer is in default, 2% interest will be applied to outstanding balance of the invoice

CM evolveIT enables the analyst to “Pull the String” on a field to find only the relevant source code

LOAN-AMOUNT

```
.....
FNAME: ALINEU.....
-----COMBINED-106-----
DCT-DURATION-LTR  PORTION-YTD  PENALTY-PRDCT-PRC  PENALTY-YTD
.....
-----COMBINED-123-----
ACTUALD-PRDCT-PRC  WITHHELD-YTD  PRD-PRD-PRM-AMT  STATE-LTR  STATE-YTD
.....
-----COMBINED-148-----
TOTAL-GL-INT  TOTAL-NEW-INT  GL-PRDCT-PAID  UNADJ-PRM ADJ-7-PAY-PRM
.....
-----COMBINED-156-----
CUR-REAR-TAKED  PRE-TERMA-COST  CUR-7-PAY-PRM  CUR-PRM-PAID
.....
-----COMBINED-171-----
N/DRAN-AMT-YTD  N/7-AMT-PORTIO  N/GRAN-AMT-LTR  MOD-DRDWN
.....
-----COMBINED-189-----
MAT-CIC-DATE  REC-IND  REC-DATE  YORRA-TRD  NC-DUR
-----COMBINED-206-----
```

- If Calculate Loan Amount
- Calculate New Loan Amount
- Add Interest to Loan Amount
- Format the output for Screen

```
1  CHECK THAT THE TERMINAL IS STORED
FOUND-TRANSACTION-CODE
MOVE ZERO
TO PRINT-OFF-DM
TO TED-ED
MOVE ZERO
PERFORM TH-READ-ONLY
IF DATA = ZERO
OR NOT TH-DATA-VALID
MOVE "E"
CAPS-SCREEN-NO
TO FORM3
MOVE "*****"
TO HS-KEY-NUMBER
PERFORM MESSAGE-MOVE THROUGH MESSAGE-MOVE-EXIT
PERFORM ERROR-ROUTINE THROUGH ERROR-ROUTINE-EXIT
GO TO PROCESS-TRANSACTION-EXIT

2  MOVE TH-SEC-AUTHORITY(SEC-PTAK )
TO TRAN-SEC
IF TRAN-SEC NOT EQUAL "99"
OR ( TRAN-CODE-HELD = "99"
AND ( TRAN-SEC = "29" ) )
OR ( TRAN-CODE-HELD = "11"
AND ( TRAN-SEC = "18" ) )
MOVE "Y"
TO CAPS-SCREEN-NO
TO FORM3
MOVE "*****"
TO HS-KEY-NUMBER
PERFORM MESSAGE-MOVE THROUGH MESSAGE-MOVE-EXIT
PERFORM ERROR-ROUTINE THROUGH ERROR-ROUTINE-EXIT
PERFORM PRDCT-ADJUST THROUGH PRDCT-ADJUST-EXIT

3  CHECK THAT THE TERMINAL IS STORED IN TO CAPITAL
FOUND-TRANSACTION-CODE
MOVE ZERO
TO PRINT-OFF-DM
MOVE ESTIMATED
TO TED-ED
MOVE ZERO
TO TED-ENET
PERFORM TH-READ-ONLY
IF DATA = ZERO
OR NOT TH-DATA-VALID
MOVE "E"
CAPS-SCREEN-NO
TO FORM3
MOVE "*****"
TO HS-KEY-NUMBER
PERFORM MESSAGE-MOVE THROUGH MESSAGE-MOVE-EXIT
PERFORM ERROR-ROUTINE THROUGH ERROR-ROUTINE-EXIT
GO TO PROCESS-TRANSACTION-EXIT

4  MOVE TH-SEC-AUTHORITY(SEC-PTAK )
TO TRAN-SEC
IF TRAN-SEC NOT EQUAL "99"
OR ( TRAN-CODE-HELD = "99"
AND ( TRAN-SEC = "29" ) )
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AND ( TRAN-SEC = "18" ) )
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TO CAPS-SCREEN-NO
TO FORM3
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PERFORM PRDCT-ADJUST THROUGH PRDCT-ADJUST-EXIT
```

CM evolveIT Data Trace finds the source that impacts the business rules.

Filters out the source that is unrelated.

Taking Minutes instead of hours to understand how a field is created

The background of the slide features a dark, semi-transparent image of two people in a meeting. On the left, a person is seated at a table, leaning forward. On the right, another person stands, gesturing with their hand as if explaining something. The overall scene is dimly lit, with the subjects appearing as dark silhouettes against a lighter, blurred background.

DEMONSTRATION

CM First Business Rules Projects

- Project for International Shipping Company
 - Moving Mainframe modules (2MM LOC) to COTS package
 - Identify Business Rules in current application to enable COTS package Gap Analysis
- Project for \$4.5B+ Industrial Parts Distributor
 - Identify Business Rules in Mainframe Application
 - Rewrite to Java backend with Rest API's and Java Script Web UI.
- Train and Support Government Organization in Ongoing Business Rules Capture project
 - Organization had begun traditional Business Rules project and wanted to Validate Business rules and Identify Missed Rules.
 - Provided CM EvolveIT along with Training and customized documentation to support their Business Rules Validation effort.

Contact

How to reach us

Our Office

7000 North Mopac Expy, #200
Austin, Texas 78731

Christoph.Heinrich@cmfirstgroup.com

Roger.Hammer@cmfirstgroup.com

www.cmfirstgroup.com

