



Modernizing legacy applications - the Micro Focus way

A case study

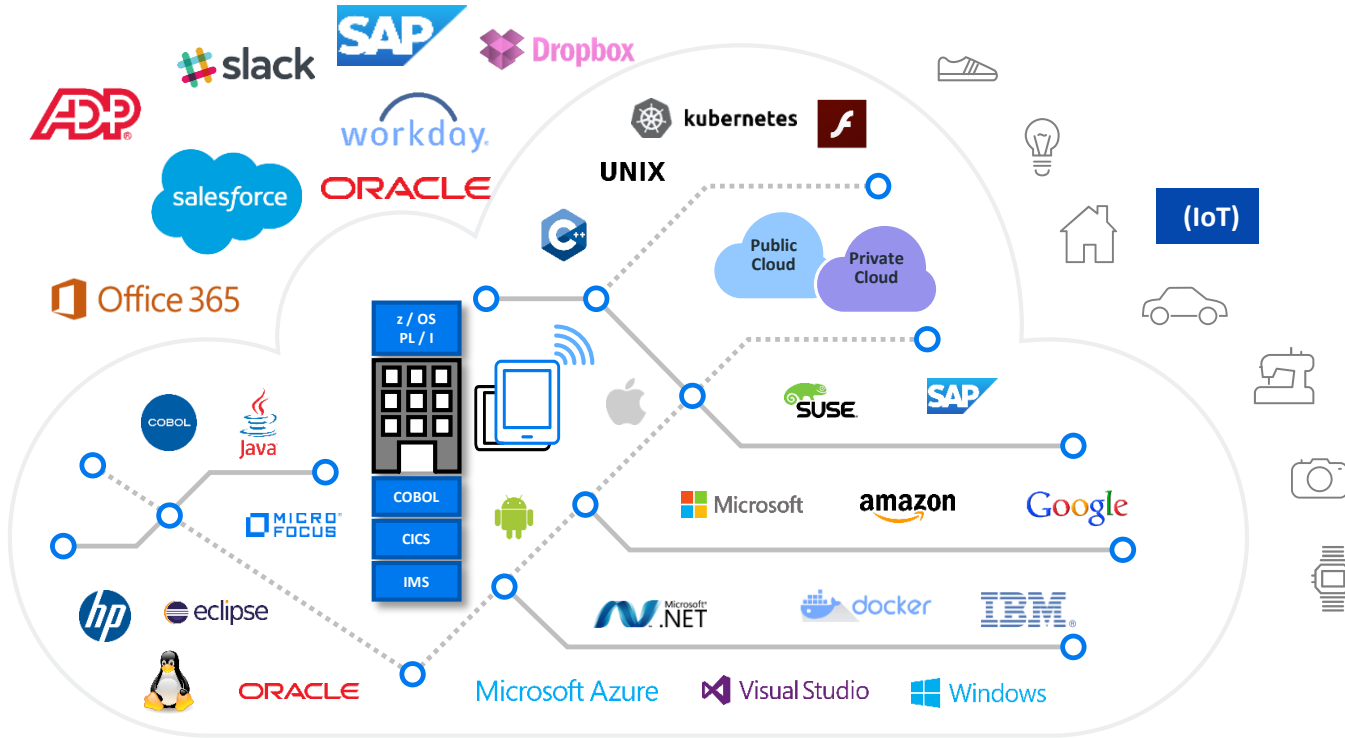


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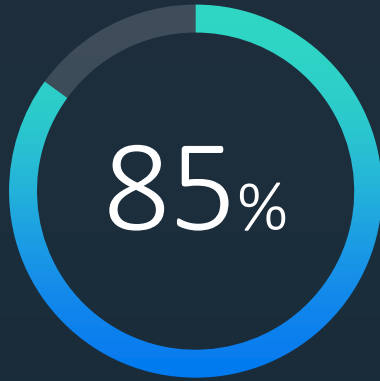
October 2019

Today's Enterprise is Hybrid

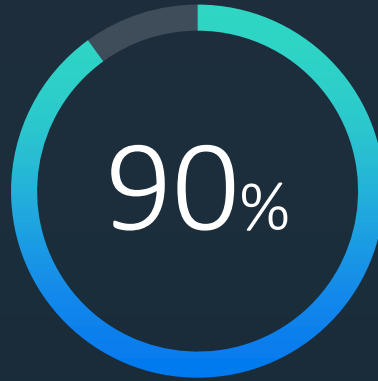
Large global enterprises have continually responded to waves of change



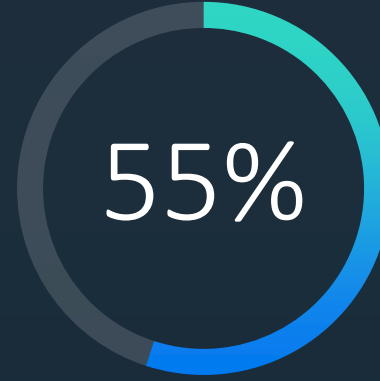
Where's the Value?



Core apps
remain strategic



Will still be in
use in 5 yrs



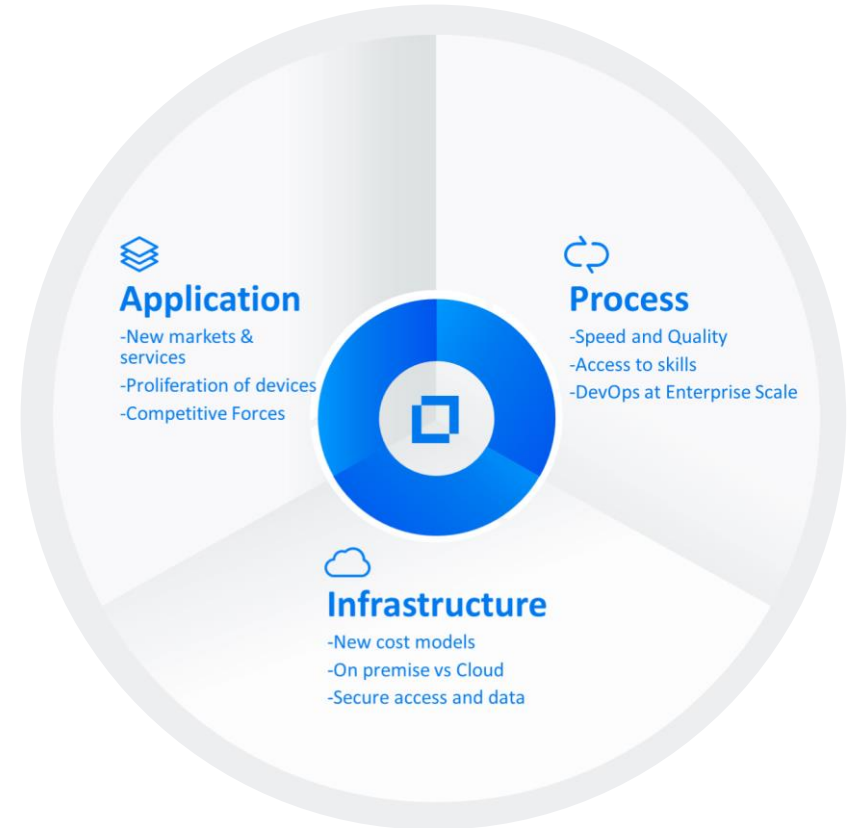
Will modernize
within 2 yrs

“...a shift from a *rip and replace* approach towards modernization”

- IDC

Micro Focus' Modernization vision

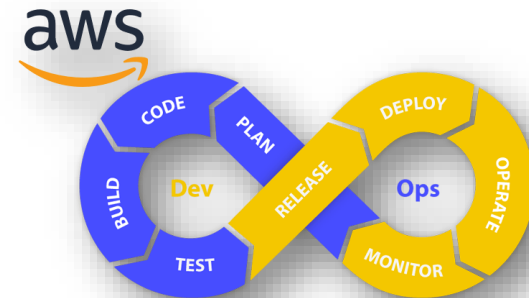
- A uniquely holistic solution for enterprise application modernization
- Supported by Micro Focus best-practice modernization principles established from over 40 years' experience and thousands of customer projects
 - Focuses on fully understanding the as-is
 - Drives the best balance of ambition and risk mitigation to achieve clear objectives



Cloud DevOps

Build, Test & Deploy Using Azure and AWS Clouds

- Configuration Management
- Pipelines - [Continuous Integration and Deployment](#)
- Planning and monitoring tools used by Agile teams



Containers

A Fast Path to Cloud

- Provide applications in easy-to-deploy packages
- Deliver working software first-time
- Containers make cloud deployment easy
- 5.0 adds support for orchestration tooling



Before:

```
Xicom V3.0.3 - TEST
Actiuni Functii Ecran Imprimanta Optiuni Jurnal Sesuneea 1:10.188.208.34 Sesunea 2:10.188.208.34 Sesunea 3:atopolog-1500 Sesunea 4:10.188.208.34
Sesunea 5:atopolog-1500 Sesunea 7:10.55.6.5 Sesunea 6:10.188.176.13

+500
+501 120307$ select cdct_l_desc from cdct_db
+502 120307$ where cdct_appl = '***' and
+503 120307$ cdct_tbl_name = 'SCOP_PF' and
+504 120307$ cdct_lang = $XUSER-LANG-ID and
+505 120307$ cdct_user_cd = $CIFSEP2-14-003.
+506
+507 120307 IF XSQL-NOT-OKAY;
+508 120307 MOVE "N" TO CALL-SWCH;
+509 120307 GO TO RETURN-RTN;
+510 120307 END-IF.
+511 120307 MOVE CDCT-L-DESC TO CIFSEP2-13-013.
+512 120307 PERFORM DISPLAY-FORE-13.
+513
+514
+515 * ----- Introducere ocupatie
+516 MOVE 06 TO WS-FORE.
+517 EU227D IF NOT TRANSACT-YES;
+518 PERFORM ACCEPT-FORE-2-12.
+519 $ select cdct_l_desc from cdct_db
+520 $ where cdct_user_cd = $CIFSEP2-06-001 and
+521 $ cdct_appl = '***' and
+522 $ cdct_lang = $XUSER-LANG-ID and
+523 $ cdct_tbl_name = 'Occupations'.
+524 IF XSQL-NOT-OKAY;
+525 EUI007 MOVE "A" TO CALL-SWCH;
+526 GO TO RETURN-RTN;
+527 END-IF.
+528 MOVE CDCT-L-DESC TO CIFSEP2-13-006.
+529 PERFORM DISPLAY-FORE-13.
+530
+531 * ----- Introducere statut profesional
+532 MOVE 07 TO WS-FORE.
+533 EU227D IF NOT TRANSACT-YES;
+534 PERFORM ACCEPT-FORE-2-12.
+535 $ select cdct_l_desc from cdct_db
+536 $ where cdct_user_cd = $CIFSEP2-07-001 and
+537 $ cdct_appl = '***' and
+538 $ cdct_lang = $XUSER-LANG-ID and
+539 $ cdct_tbl_name = 'Prof-status'.
+540 IF XSQL-NOT-OKAY;
+541 EUI007 MOVE "A" TO CALL-SWCH;
+542 GO TO RETURN-RTN;
+543 END-IF.
+544 MOVE CDCT-L-DESC TO CIFSEP2-13-007.
+545 PERFORM DISPLAY-FORE-13.
+546
+547 * ----- Introducere stare civila
+548 MOVE 08 TO WS-FORE.
+549 EU227D IF NOT TRANSACT-YES;
+550 PERFORM ACCEPT-FORE-2-12.
+551 $ select cdct_l_desc from cdct_db
+552 $ where cdct_user_cd = $CIFSEP2-08-001 and
```

Connectat la 10.188.208.34 Marti, 24 Septembrie 2019 - 09:59:50

The 'Skills' Debate



192.168.1.98 - PuTTY

```
BATCHEXT .cbl
COPY EMPNEW.
```

AWS - LoanAmort/src/microfocus/loan/amort/LOANAMORT.cbl - Eclipse

Visual Studio

```
* See the License for the specific language governing per...
IDENTIFICATION DIVISION.
PROGRAM-ID. LOANAMORT.
REMARKS. THIS PROGRAM CALCULATES A MONTHLY PAYMENT SCHED
TERM, PRINCIPAL, AND INTEREST RATE.

ENVIRONMENT DIVISION.

DATA DIVISION.

WORKING-STORAGE SECTION.

01 P PIC S9(8) COMP-3.
01 T PIC S9(8) COMP-3.
01 R PIC S9(9)V99(9).
01 MONTH PIC S9(4) COMP.

01 NUMPAYMENT PIC S9(9)V99.
01 STRPAYMENT PIC $$,$$$ .99.
01 DECPAYMENT PIC S9(9)V9(9) COMP-3.
01 INTPAID PIC S9(9)V9(9).
01 TOTINTPAID PIC S9(9)V9(9).
01 PRINCPAID PIC S9(8)V99 COMP-3.

01 WORK-FIELDS.
03 WRK-MESSAGE PIC X(40) VALUE "CALCULATING P
03 WRK-RATE PIC S9(9)V9(9) COMP-3.
03 WRK-PAYMENT PIC S9(9)V9(9) COMP-3.
```

LOANAMORT.cbl

```
01 WRK-RATE PIC X(40) VALUE "CALCULATING PAYMENT".
03 WRK-RATE PIC S9(9)V9(9) COMP-3.
03 WRK-PAYMENT PIC S9(9)V9(9) COMP-3.
03 WRK-PAYMENT-A PIC $$,$$$ .99.

LINKAGE SECTION.
01 COPY SHORTCUT.
01 COPY AMORTOUT.
PROCEDURE DIVISION USING LOANINFO
OUTDATA.

PERFORM CALC-PAYMENT
MOVE WRK-PAYMENT TO DECPAYMENT

PERFORM VARYING MONTH FROM 1 BY 1 UNTIL MONTH > LOANTERM
COMPUTE INTPAID ROUNDED = PRINCIPAL * ((RATE / 100) / 12)
COMPUTE TOTINTPAID = TOTINTPAID + INTPAID

IF MONTH = LOANTERM
COMPUTE DECPAYMENT = INTPAID + PRINCIPAL
END-IF

COMPUTE PRINCPAID = DECPAYMENT - INTPAID
COMPUTE PRINCIPAL ROUNDED = PRINCIPAL - PRINCPAID
MOVE PRINCPAID TO OUTPRINCPAID(MONTH)
MOVE INTPAID TO OUTINTPAID(MONTH)
MOVE DECPAYMENT TO OUTPAYMENT(MONTH)
MOVE PRINCIPAL TO OUTBALANCE(MONTH)

END-PERFORM
MOVE TOTINTPAID TO OUTTOTINTPAID

GOBACK.

CALC-PAYMENT.
IF RATE = ZERO
COMPUTE WRK-PAYMENT ROUNDED = PRINCIPAL / LOANTERM
ELSE
COMPUTE WRK-RATE = (RATE / 100) / 12
COMPUTE WRK-PAYMENT ROUNDED = (PRINCIPAL * WRK-RATE) /
(1 - (1 / ((1 + WRK-RATE) ** (LOANTERM))))
END-IF.

CALC-PAYMENT-EXIT.
EXIT.

END PROGRAM.
```

Visual Studio interface showing code editor, Solution Explorer, and Properties windows.

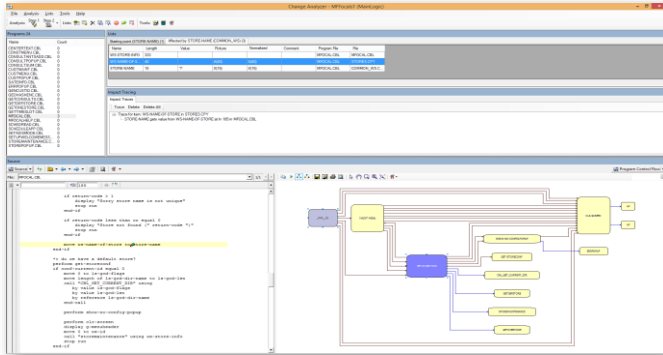
Eclipse IDE interface showing code editor and Solution Explorer.

Micro Focus logo

COBOL Analyzer

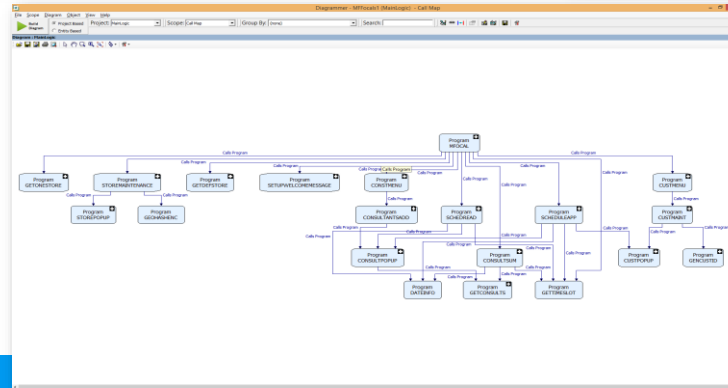
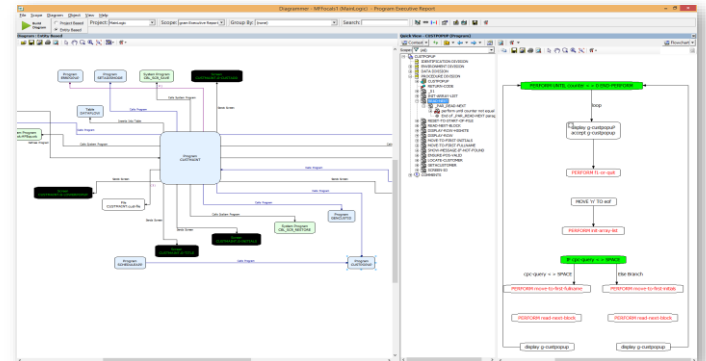
Instant Knowledge for Development Teams

Impact analysis of a pending code



Code visualization

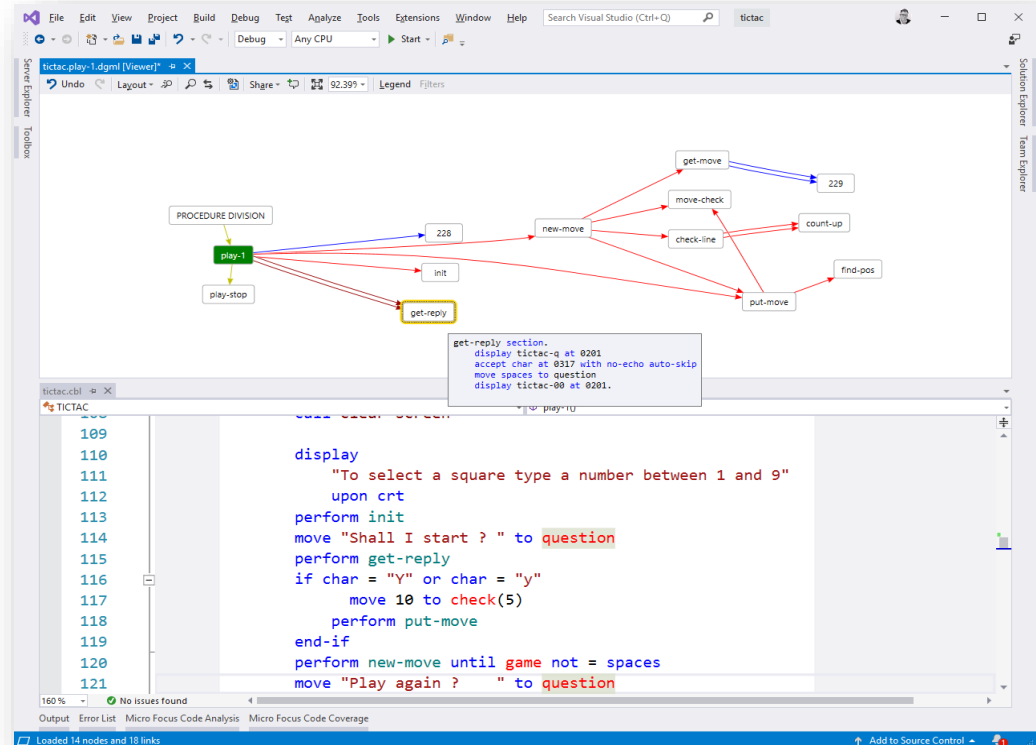
Interactive application call map



Unifying Analysis and Development Tools

Bringing Application Understanding to the Fingertips of COBOL Developers

- Robust, state of the art, developer's toolset.
- Ready for DevOps/Continuous integration methodologies
- New tools include:
 - Program Control Graph
 - Data Flow Analysis





COBOL deployment using Docker enables optimized server infrastructure, rapid time-to-market, and DevOps practices for Advanced
[Advanced - Visual COBOL customer video](#)