



eCube Systems  
ENABLING ENTERPRISE EVOLUTION

# NXTware Remote

Advanced Development and Maintenance Environment for  
OpenVMS and other Strategic Platforms



## Introduction to NXtware Remote

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- Why Modernize Development?
- What is NXtware Remote
  - Advanced tools
  - Rich integration
  - Powerful Debugger
- Benefits of NXtware Remote



# Why modernize your development environment?

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- **Enhanced Results**
  - Improved Quality
  - Increased Productivity
  - Lower Costs
- **Enriched Teams**
  - Establishes best practices
  - Enrich current capabilities
  - Simplifies onboarding new developers
- **Agile Organization**
  - Improves development-operations (Dev-ops)
  - Provides great organizational adaptability

# The components of a modern development Environment?

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- Primary
  - Modern integrated development environment (IDE)
    - Powerful editors
    - Integrated graphical debugger
    - Integrated source code management
    - Open framework for adding tools
  - Best practices
- Contributing
  - Task/Requirement management
  - Dev-Ops automation between
    - Source code repository
    - Build
    - Testing

# Intro to NXTware Remote

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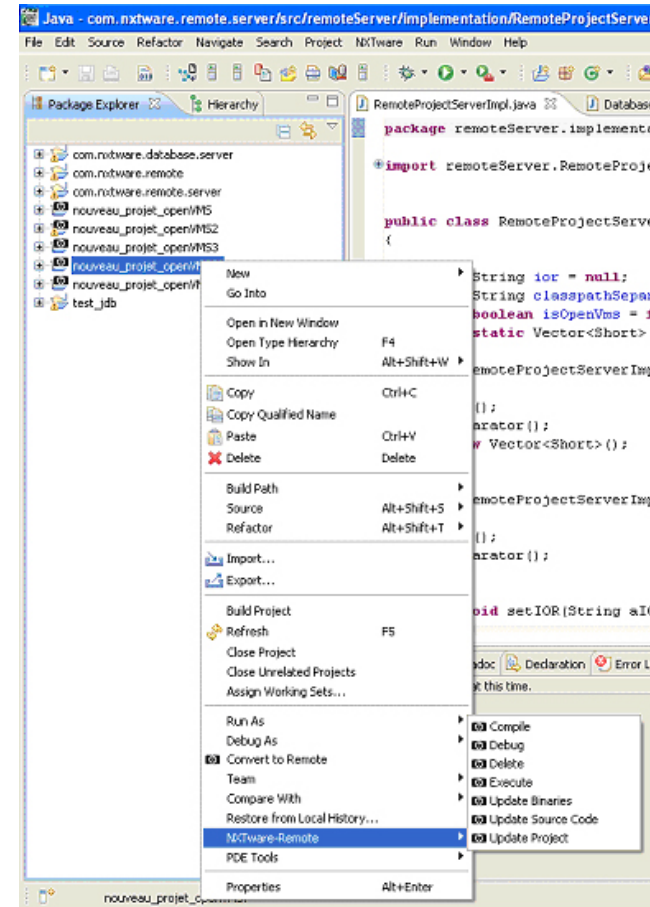


- What is NXTware Remote?
  - An integrated development/maintenance environment that
    - Increases software engineering productivity
    - Updates and modernizes the development process
    - Easily integrates external tools into the dev process
  - Supports best practices and improves code quality
  - Provides a
    - Remote development environment
    - Advanced software engineering tools
    - Powerful Debugger

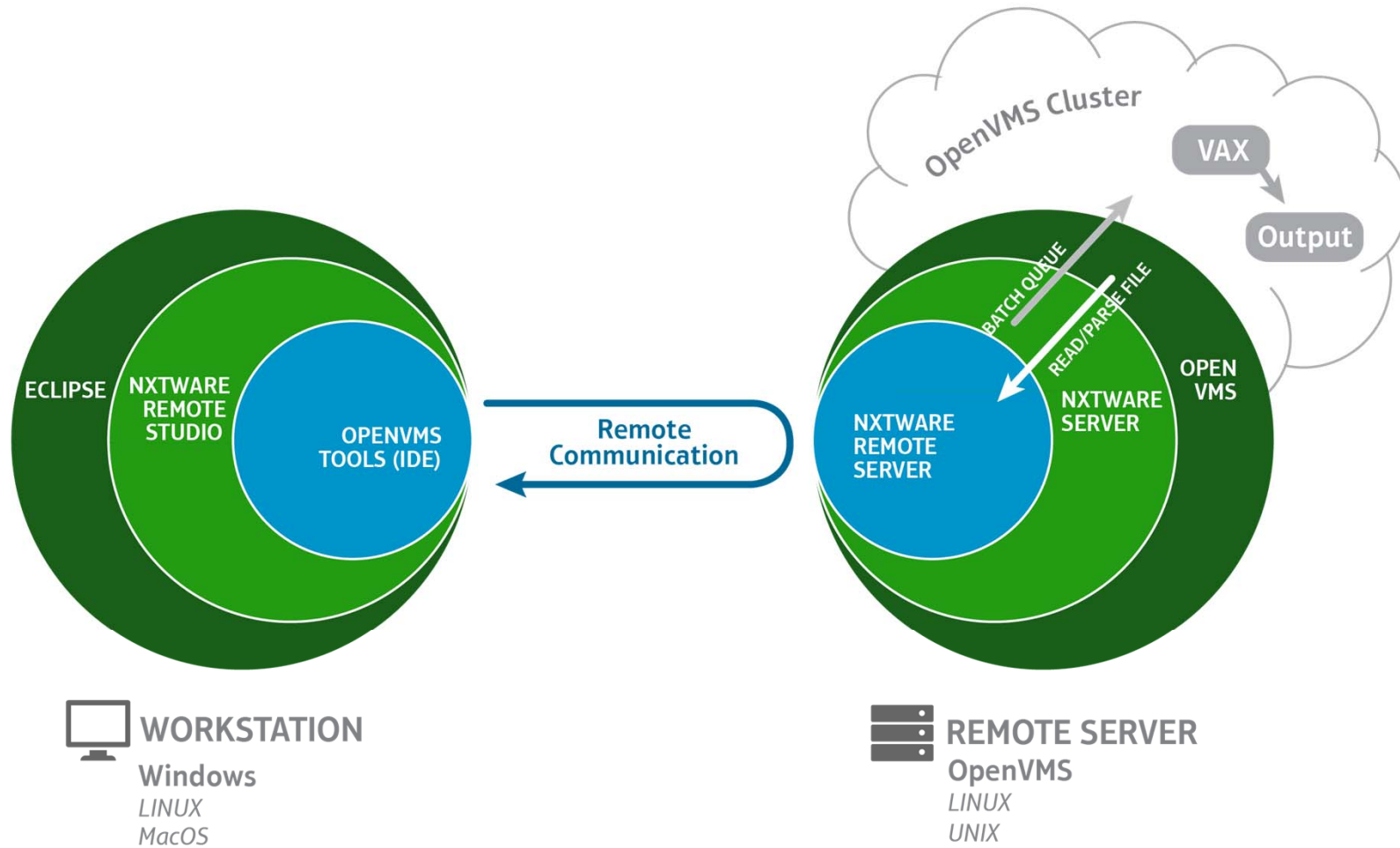
# NXTware Remote Features



- Eclipse-based IDE
  - Native HP Language Editors
  - Full integration /certification of 3rd party Eclipse plug-ins
- Remote Development
  - From: Windows, LINUX, MacOS
  - To: OpenVMS, LINUX, UNIX
- Language Support
  - C/C++, COBOL, PASCAL, FORTRAN, BASIC
  - DCL, SQL, various scripting languages
- Modular Extensible
  - IDE and Remote Execution
  - MMS, CMS, SVN, etc
  - 3rd Party plug-ins



# Remote Development Architecture





- Remote architecture
  - NXTware Remote Studio
    - Eclipse plugin
  - NXTware Remote Server
    - Remote execution engine
  - NXTware Server
    - Communication platform
- Remote Operation
  - Studio enables users retrieve and edit code the transfer to a remote server for operations
  - On remote server the source code is built, compiled, run and debugged from within Eclipse



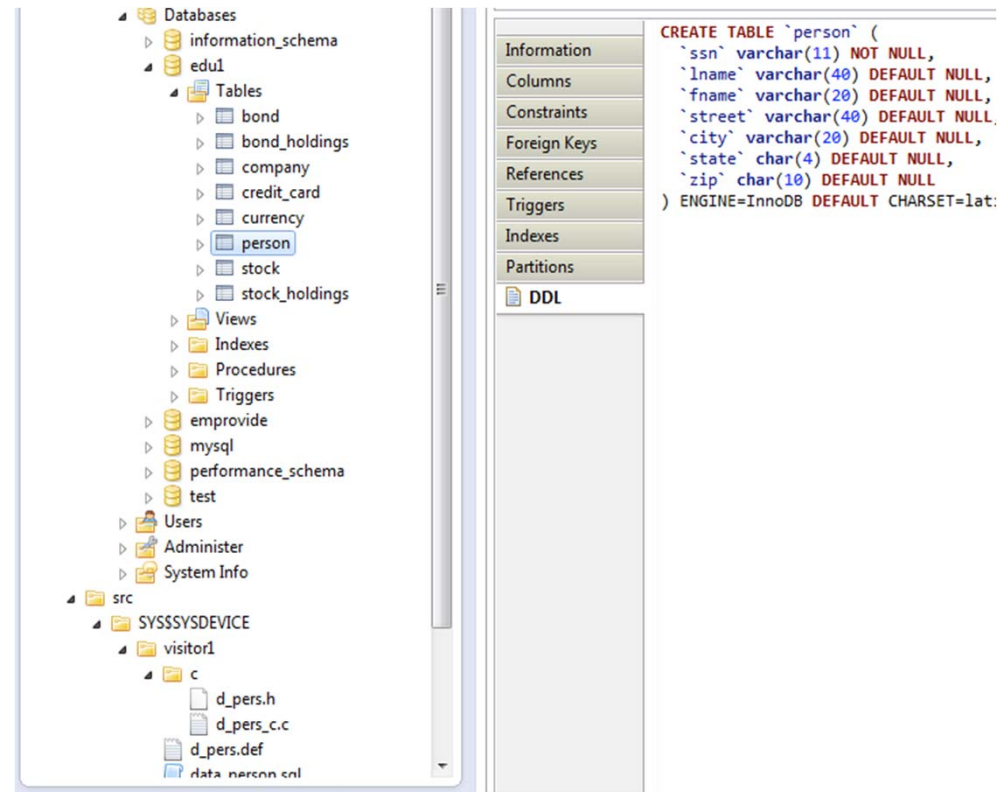


- Rich Editor Features
  - [Easy Navigation](#)
  - [Syntax Highlighting](#)
  - [Content Assist](#)
  - Mirroring and Synchronizing Files
  - [Source Code Templates](#)
  - [Macros and Shortcuts](#)
  - [Search & Replace](#)
  - [Bookmarks](#)

# Rich Integration: OpenVMS Centric



- **Oracle RDB**  
(Relational Database Management System) integration
- **HP CDD**  
(Common Data Dictionary)
  - CDO, BLDCDO
- **HP ACMS**  
(Application Control Management System)
  - GDF, TDF, IFDL, CDO
- **HP RMS**  
(Record Management Services) integration
- **CMS**, NXTware Remote advanced integration with CMS



# Rich Integration: CMS File Diff



NXTware-Remote - Compare (C:\temp2\192.168.1.14\_demo\_cobol/src\_remote\_files/compare/MYDEMOFILE\_V1.COB with C:\temp2\192.168.1.14\_demo\_cobol/src\_remote\_files/compare/MYDEMOFILE\_V3.COB) - Eclipse

File Edit Navigate Search Project NXTware Run Window Help

Project Explorer Outline

192.168.1.14\_demo\_cobol

- src
- DISK\$USERS
- RDOYLE
- src\_remote\_files
- libpath.xml
- NXTware.remote
- 192.168.1.14\_new\_basic\_project2
- 192.168.1.14\_new\_c\_project\_demo
- 192.168.1.14\_new\_c\_project2
- 192.168.1.14\_new\_c\_project3
- 192.168.1.14\_new\_c\_project4
- 192.168.1.14\_new\_fortran\_project3
- 192.168.1.14\_new\_fortran\_project4

Text Compare

Compare (C:\temp2\192.168.1.14\_demo\_cobol/src\_remote\_files/compare/MYDEMOFILE\_V1.COB with C:\temp2\192.168.1.14\_demo\_cobol/src\_remote\_files/compare/MYDEMOFILE\_V3.COB)

Left pane (V1.COB):

```
1 IDENTIFICATION DIVISION.
2 PROGRAM-ID. MYDEMOFILE.
3 AUTHOR. rdoyle.
4
5
6
7
8 ENVIRONMENT DIVISION.
9 CONFIGURATION SECTION.
10 INPUT-OUTPUT SECTION.
11
12 DATA DIVISION.
13 FILE SECTION.
14 WORKING-STORAGE SECTION.
15 LINKAGE SECTION.
16
17
18
19 END PROGRAM MYDEMOFILE.
20
```

Right pane (V3.COB):

```
1 IDENTIFICATION DIVISION.
2 PROGRAM-ID. MYDEMOFILE.
3 AUTHOR. rdoyle.
4
5
6
7
8 ENVIRONMENT DIVISION.
9 CONFIGURATION SECTION.
10 INPUT-OUTPUT SECTION.
11
12 DATA DIVISION.
13 FILE SECTION.
14 WORKING-STORAGE SECTION.
15
16 PROCEDURE DIVISION.
17 MAIN SECTION.
18
19     DISPLAY "Hello World".
20
21
22
23 END PROGRAM MYDEMOFILE.
24
```

Console

CMS SHOW DIFFERENCES 192.168.1.14\_demo\_cobol

```
%CMS-S-FETCHED, generation 3 of element DISK$USERS:[RDOYLE.cms]MYDEMOFILE.COB fetched
RDOYLE      job terminated at 12-AUG-2014 14:04:13.50
Accounting information:
Buffered I/O count:      520      Peak working set size:      4720
Direct I/O count:       75      Peak virtual size:      178336
Page faults:           412      Mounted volumes:      0
Charged CPU time:      0 00:00:00.04      Elapsed time:      0 00:00:00.36
```

Problems

6 errors, 0 warnings, 0 others

Description	Resource	Path	Location
Errors (6 items)			

Left: 16: 1, Right: 15: 1, incoming deletion #1 (Left: 15: 15, Right: before line 15)

Windows taskbar: Windows, File Explorer, HP, Outlook, Chrome, Eclipse, Task Manager, System Monitor, Volume, Network, ENG US, 3:05 PM, 2014-08-12

# Powerful Debugger: Managing values



The screenshot displays the Eclipse IDE interface during a debug session. The top menu bar includes File, Edit, Navigate, Search, Project, Run, Window, and Help. The toolbar contains various icons for file operations, navigation, and debugging. The main workspace is divided into several panes:

- Debug Console:** Shows the execution flow of the program. The current thread is 'Thread[1]' with stack name 'ITERATION:24'. The process is 'NXTware-Remote Process'.
- Variables:** A table showing the current values of variables:

Name	Value
NUM1	45
NUM2	88
- Source Code:** The COBOL program 'ITERATION.COB' is open. The current line of execution is line 24, which is 'ACCEPT Operator.'. The code includes a 'MAIN SECTION' with prompts for numbers and an operator, followed by conditional logic for addition and multiplication.
- Outline:** A tree view showing the program structure, including 'IDENTIFICATION DIVISION', 'ENVIRONMENT DIVISION', 'Data Division' (with 'Working Storage Section' containing '01 Num1', '01 Num2', '01 Result', and '01 Operator'), 'PROCEDURE DIVISION', and 'MAIN'.
- Console:** Displays the input and output of the program. It shows prompts for 'Enter First Number', 'Enter Second Number', and 'Enter operator (+ or \*)'. The current input is '45', '88', and the operator is being entered. The console also shows a break at line 24 and the debugger prompt 'DBG>'.

The bottom status bar indicates the current line is 24 of 1, and the system clock shows 9:34 AM on 2014-06-02.

Video Demo: <https://www.youtube.com/watch?v=3icNPjKitXg>



## Rich Integration 3<sup>rd</sup> Party Plugin and Integration

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- Database Management
  - Dbeaver for Database integration (SQL and RDB support)
- Source Code Management Support
  - Quality Center, Subversion, Git, Microsoft Team Foundation, etc
- Requirement and Task Management
  - Mylyn Task Management (Quality Center support)
  - Custom integration
- Quality/Check Style
  - *ACRT - Automatic Code Review Tool* for COBOL
- Custom Integration
  - Jenkins Build Automation



- Proven demonstrated benefits
  - Developers are
    - More productive
    - Generated fewer bugs
    - Created code that was easier to manage
  - Managers are able to better
    - Allocate resources
    - Track efforts
    - Forecast deliverables
  - End users receive
    - Better quality application updates faster

## NXTware Remote Benefits

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- What can NXTware Remote do for you and your users?
  - 30 %– 45% improvement in overall productivity
  - 100% – 300% improvement in productivity for specific tasks
  - 50% decrease in bugs and errors that reach QA
  - Overall reduction in the amount of time and energy needed to develop, build and test software

## For More Information

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Visit [www.ecubesystems.com](http://www.ecubesystems.com)

Watch the NXTware Remote [playlist](#)

Email [ecube.sales@ecubesystems.com](mailto:ecube.sales@ecubesystems.com)

More Info: [kbarnes@ecubsystem.com](mailto:kbarnes@ecubsystem.com)  
[gerrit@bgsoftware.nl](mailto:gerrit@bgsoftware.nl)

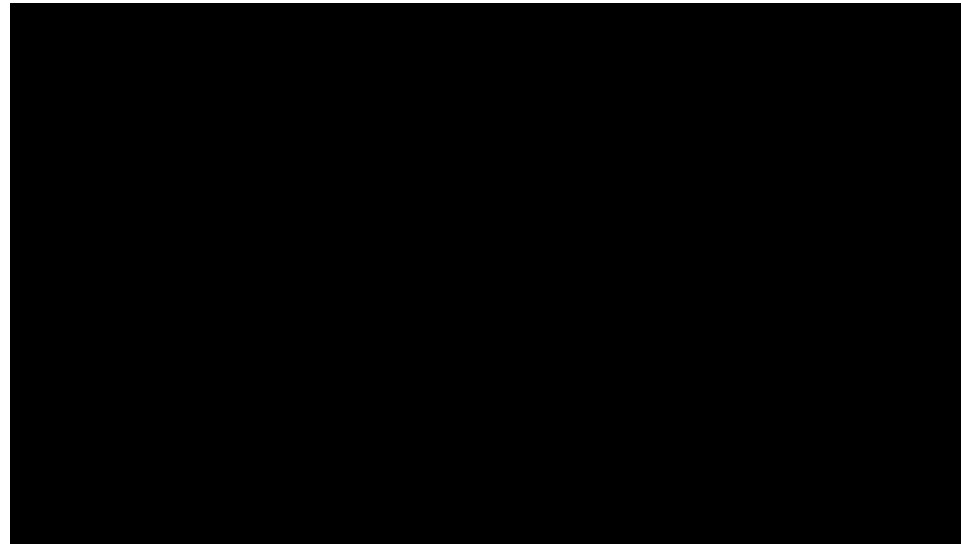


## Cal Success Story

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- Don't just take our word for it:  
([bit.ly/1E0m7KN](http://bit.ly/1E0m7KN))



<https://www.youtube.com/watch?v=1V0gm98Xj4g>