

# Introduction to DBDOC

DBDOC is the essential companion to your ABB INFI 90 system.

The image features a man in a light green shirt and tie sitting on a chair, holding a laptop. Behind him are two computer screens. The left screen displays a 'Block Use Index' window with a table of data. The right screen displays a 'BLOWER No.1 CONTROL' graphical interface with a schematic diagram and a status table.

**Block Use Index**

Module	Block
1,20,02	Block 2495 (BIIGVCLOSE)
	LOWER 1 IGV CLO

**BLOWER No.1 CONTROL**

ALARM PRESENT NO

FAULT STARTUP ALARM NO

STARTUP PERMITTED NO

STARTUP IN PROGRESS NO

SHUTDOWN ALARM NO

NORMAL / TEST MODE NO

LUBE OIL PUMP STOP REQUIRED

LUBE OIL FILTER DIFF PRESSURE 0

LUBE OIL PRESSURE 0.0 KPa

LUBE OIL PUMP 0 KW

STOPPED Hours Run 0 HRS

RESET REQUIRED

BLOWER IGV OUTPUT 0 KPa

HEADER PRESSENE STAGE 1 0.0 KPa

TOTAL AIR FLOW STAGE 1 0.0 KMG HR

BLOWER STARTUP ELAPSED TIME 0.0

BLOWER SHUTDOWN TIME REMAINING 0.0

WAITING FOR S/DOWN SEQ TO FINISH NO

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# 1.1 What is DBDOC?



- A safe, read-only snapshot of the Harmony INFI 90 DCS system.
- Integrated view of configuration, graphics and databases, and third party resources.
- Ability to see live system data remotely, even for untagged blocks. NERC compliant.
- Exceptional troubleshooting and signal tracing tool.
- Indispensable companion for system audits, upgrades and conversions.

# 1.1 What is DBDOC? (cont'd)



DBDOC compiles the following types of resources into one cross-linked, browsable snapshot of your system:

- WinCAD
  - Composer
  - Conductor VMS & NT
  - PGP/SPlus
  - CADEWS
  - SODG
  - Process Portal B
  - 800xA Graphics
  - Text Documentation
- And other resources:
- AutoCAD
  - MicroStation
  - PDF Files
  - P&IDs
  - WonderWare
  - Honeywell
  - OSISoft PI

# 1.2 Who can benefit from DBDOC?

Getting DBDOC into the hands of more people that use the ABB Harmony INFI 90® system will pay off with easier and better execution of any tasks they have to do.

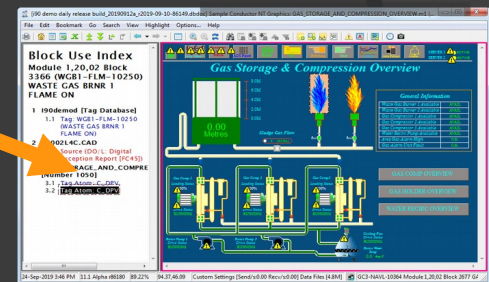
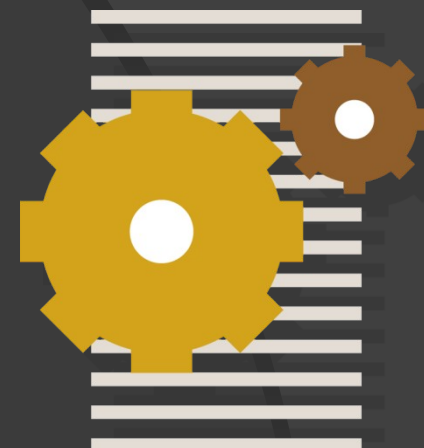
DBDOC users include:

- Technicians
- Engineers
- Planners
- Managers
- Operators
- Trainers
- Students
- Safety & loss prevention personnel



# 1.3 How does DBDOC work?

The DBDOC compiler builds all your system files into a single snapshot. The DBDOC snapshot is like a custom website representing your system. Browse it with the DBDOC browser.

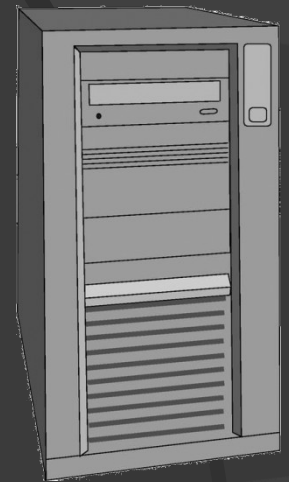


- Everything is cross-linked.
- Trace signals by clicking and double-clicking.
- Instantly see all the uses of any block.
- Powerful text and database search tools give you instant access to every graphic, CAD/CLD drawing, and even third party resources such as MicroStation drawings and PDF documents.

# 1.3 How does DBDOC work?

DBDOC provides a safe, read-only view of live data for every block in your system. The DBDOC data server fetches data from CIUs and serial port modules.

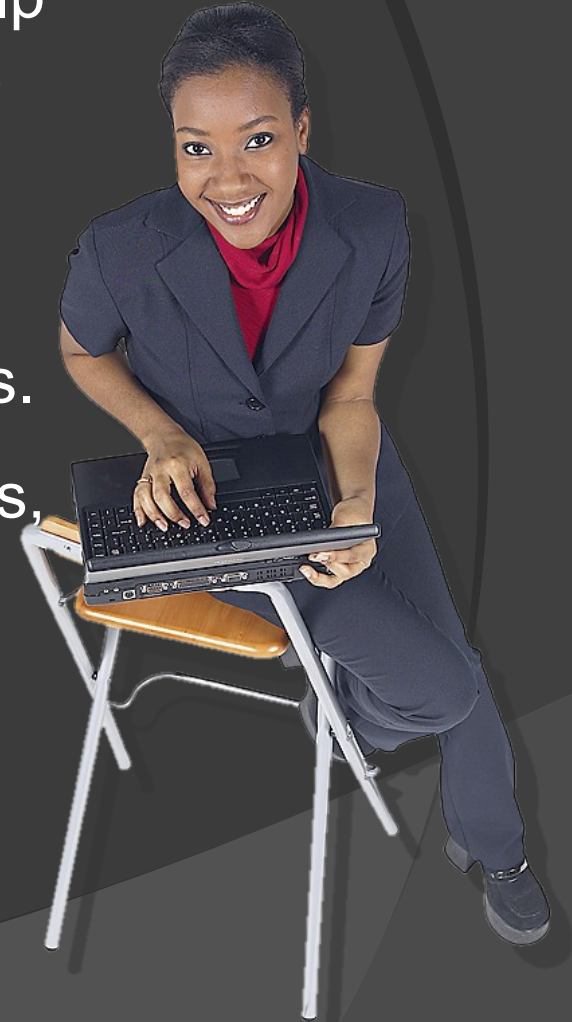
- See live data for ANY block, not just exception reported blocks.
- View live data on the business LAN or offsite. Fully NERC compliant.
- Lightweight trending capabilities let you capture data, and easily export it for analysis.



# 1.3 How does DBDOC work?

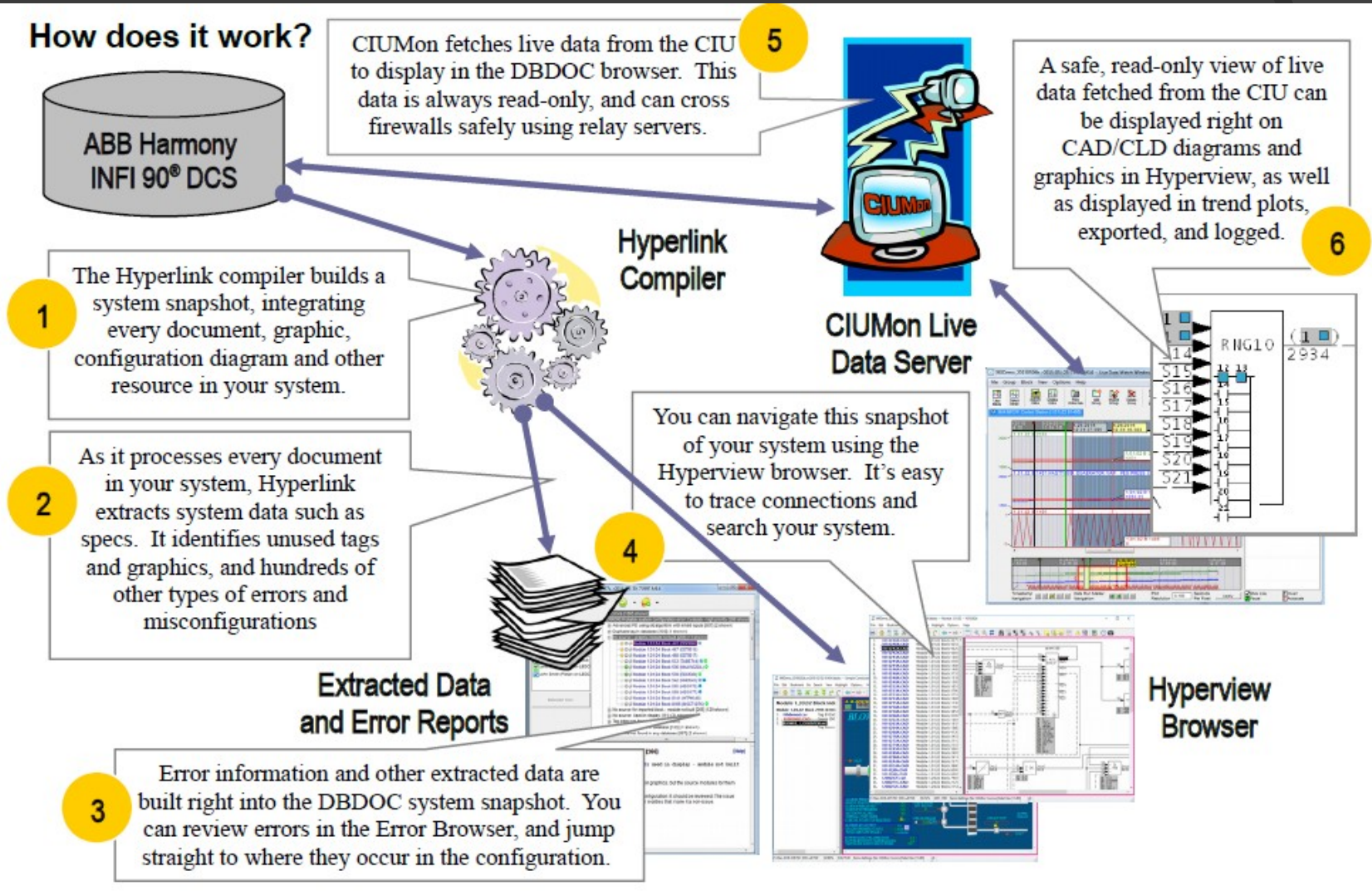
Built-in tools and analysis reports can help you eliminate common misconfigurations and improve your system.

- DBDOC checks for hundreds of common errors and misconfigurations.
- Built in error browser, reports, indexes, and tools make it easy to find and solve problems.
- Easy to rebuild the snapshot frequently and automatically.



# 1.4 System Overview

## How does it work?





# 1.5 How is DBDOC used?

DBDOC meets a variety of needs for users of Harmony INFI 90 systems:

- Troubleshooting
- Documentation
- Development
- Commissioning and Checkout
- System Simulation
- Training
- Detection of Errors and Misconfigurations
- Portable System
- NERC Compliant Live Data on Business LAN
- Collaboration Tool
- Console Upgrades
- System Audits

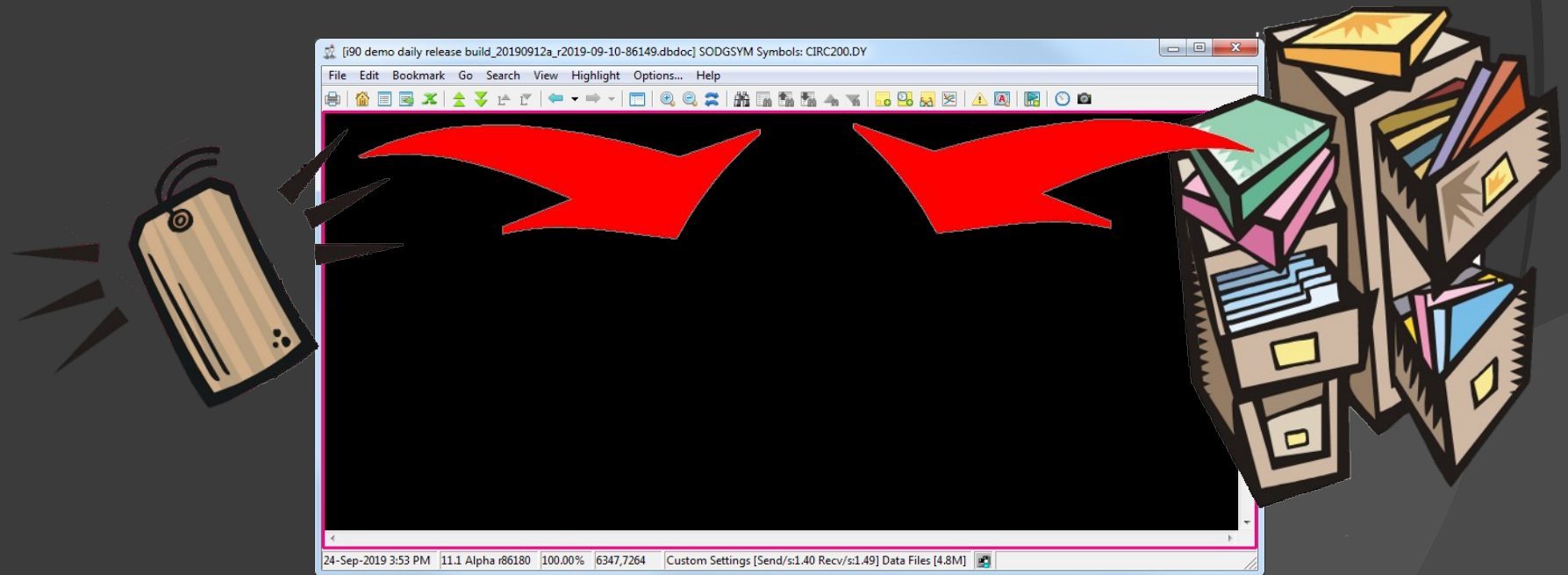
# 1.5.1 DBDOC for Troubleshooting

- Point and click browser interface for intuitive signal tracing.
- All resources cross-linked, all document types integrated.
- Live data displayed on all document types.
- More people can safely troubleshoot routine problems.
- System experts freed up for other tasks.



# 1.5.2 DBDOC as Documentation

- Integrate existing documentation into your DBDOC snapshot.
- Tag names in the documentation are automatically linked into the system snapshot.



# 1.5.2.1 Uses of DBDOC for Documentation

Tag names in documentation built into the snapshot get cross-linked with all the other resources. Applications:

## Alarm Documentation

- Associated tag names, graphics etc mentioned in documentation automatically cross-linked.

## Calculation Support

- Documentation mentioning tags involved in calculations automatically cross-linked.

## Logs and Reports

- Reports mentioning tag names automatically cross-linked.

## 1.5.2.2 Optional Documentation Extensions to DBDOC

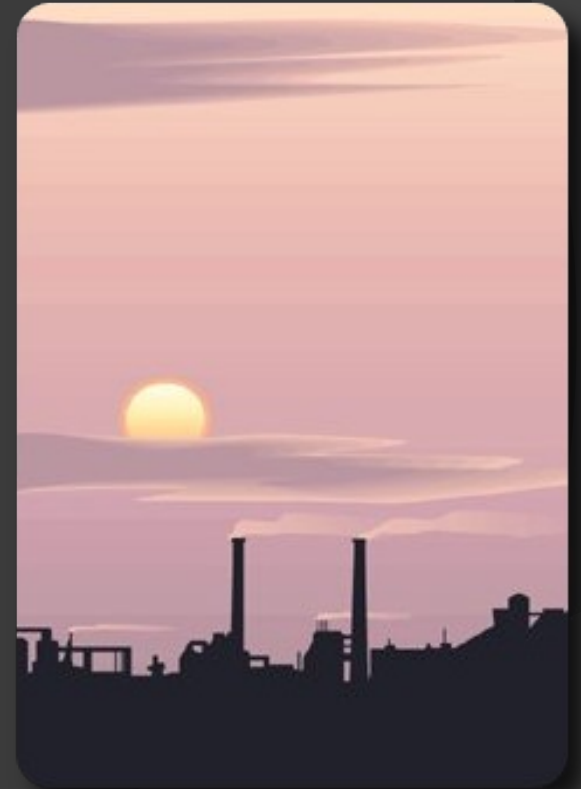
DBDOC can also be used for block number linked documentation.

- Do you have documentation or tables with block numbers?
- GMCL can optionally extend DBDOC to recognize any Loop-PCU-Module-Block pattern.
- Contact us for details.



# 1.5.3 DBDOC During Development

- Build fresh system snapshots nightly.
- Use DBDOC to browse the logic instead of Composer or WinCad.
- Monitor daily changes with DBDOC's Management of Change reports.
- Decompose Composer for analysis with old WinCAD tools.
- DBDOC's error checks catch problems before you compile modules.



# 1.5.4 DBDOC During Commissioning and Checkout

- DBDOC can help support the implementation of a new system or subsystem.
- DBDOC error checks and troubleshooting tools assist in many ways.



# 1.5.4.1 Experiences with DBDOC for Commissioning and Checkout

## Hibernia Oil Platform

- Claimed DBDOC saved a month of startup time in multi-billion dollar project.

## Aluminum Partners of Jamaica

- DBDOC was purchased before the INFI 90 system. Used to explain methodology used at a partner plant.

## Yallourn “W” Power Station

- Used over a number of years as plant was implemented unit by unit.

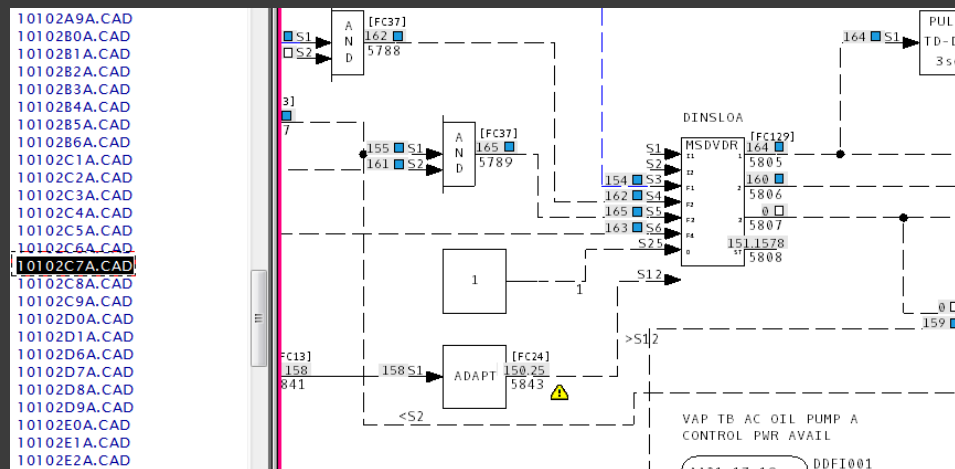




# 1.5.5 Using DBDOC with a Simulator

DBDOC is a powerful aid in simulation projects with emulated CIU support.

- Test new or changed modules in DBDOC.
- See how typical live values look in your new logic.
- See the logic in the simulated system.
- Fix problems before they're online.



## 1.5.6 DBDOC as a Training Tool

- Safe, read-only, and easy to use.
- Built-in help for function codes.
- Flattened view of databases.
- Excellent support for signal tracing.



# 1.5.7 DBDOC for Error Detection

Find ambiguous non-error situations

- e.g. extra wires, constant blocks in ladder logic, unused tags.

DBDOC makes it easy to clean up your system

- Find undefined tags, tags with no source, graphics that cannot be triggered, unused logic.

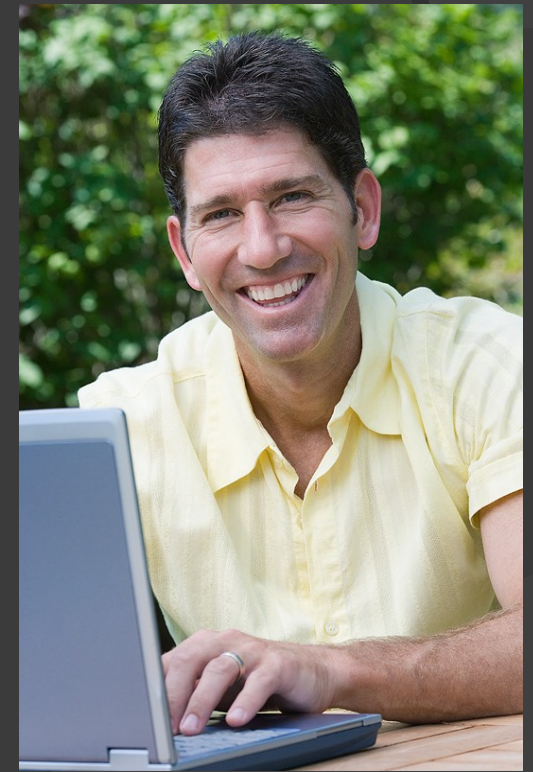
DBDOC detects hundreds of potential errors and misconfigurations. You can review them, flag them, hide them using the built in Error Browser.



# 1.5.8 DBDOC as a Portable System

You can put the DBDOC system snapshot on your laptop.

- Troubleshoot from home
- Support the system on the road
- Laptops, notebooks, tablet PCs, with wireless LANs let you use DBDOC to troubleshoot out in the field
- Monitor live data remotely and safely
- Static analysis anywhere, offline



# 1.5.9 DBDOC for NERC Compliant Data on Business LAN

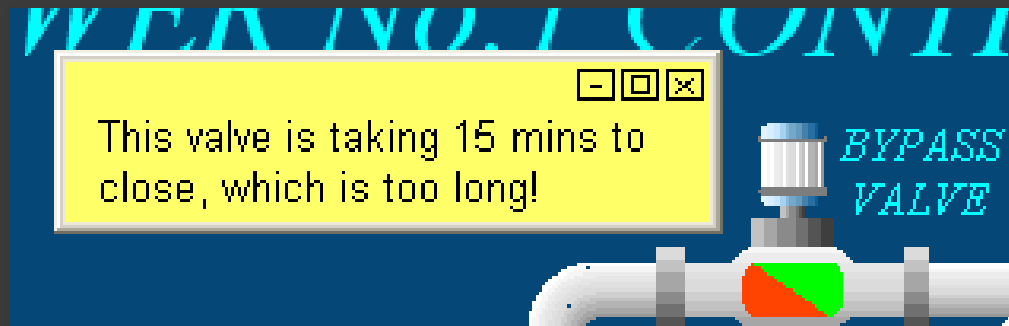
Use DBDOC to get live data on your business LAN.

- Troubleshooting and analysis from anywhere in the plant, or remotely.
- Train support staff without needing to be on DCS LAN.
- DBDOC uses a relay server on intermediate LAN for total NERC compliance.



# 1.5.10 DBDOC as a Collaboration Tool

- Send consultants your system snapshot on a CD.
- Mark your system with annotations and bookmarks.
- Share bookmarks among a group of users.
- Share the task of reviewing errors among a group of users.



# 1.5.11 DBDOC for Console Upgrades

- Build your old and new consoles into the same M14.
- Use DBDOC's Audit Window to verify that the new graphics access the right tags.

The screenshot displays the DBDOC software interface. The main window shows a process diagram titled "No.1 CONTROL" with various components like "LUBE OIL PUMP", "LUBE OIL FILTER", and "LUBE OIL PRESSURE". A "Block Use Index" window is open, listing the following items:

- Blocks [26]
- Loop 1 [26]
- PCU 1 [1]
- Module 2 [1]
- Block 1548 — B1REMCONT, RESET (BLOWER 1 REMOTE CTRL)
- Tag Atom: C\_DPV
- Tag Atom: EB\_FB1
- Tag Atoms: EB\_BADQUAL EB\_FB1 EB\_PRALMST
- Tag Atoms: EB\_FB1 EB\_PRALMST
- PCU 3 [3]
- PCU 5 [17]
- PCU 20 [5]
- Graphics Tags [26]
- Linked Graphics [3]
- BLOWER\_1\_ALARMS\_1
- glbfwdar
- GAS\_STORAGE\_AND\_COMPRESSION\_OVERVIEW

The interface also shows a status bar at the bottom with the following information: 24-Sep-2019 4:13 PM | 11.1 Alpha r86180 | 100.00% | 7,78,71.11 | Custom Settings [Send/s:0.00 Recv/s:0.00] Data Files [4.8M]



# 1.5.12 DBDOC for System Audits

DBDOC makes it easy to check through many aspects of your system. For example:

- All function blocks of a certain type. Useful for checking ABB software revisions.
- Parameters, tag names, linked documentation.
- All blocks and tags on graphics and CAD sheets.
- “Dead spots” on graphics.





# Welcome to DBDOC

