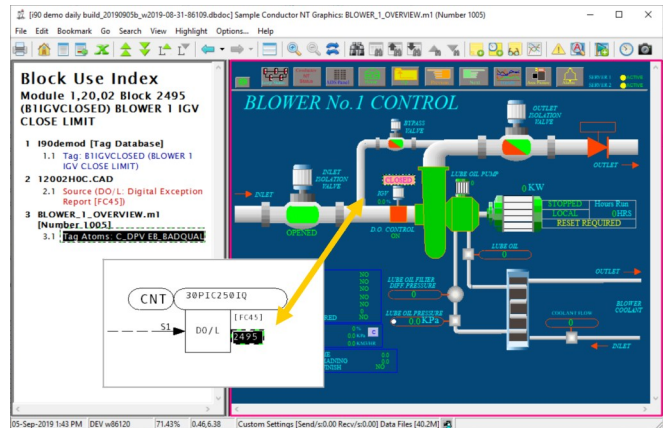


DBDOC is the essential companion to your Harmony INFI 90® system software, complementing your existing tools and enhancing productivity and effectiveness.

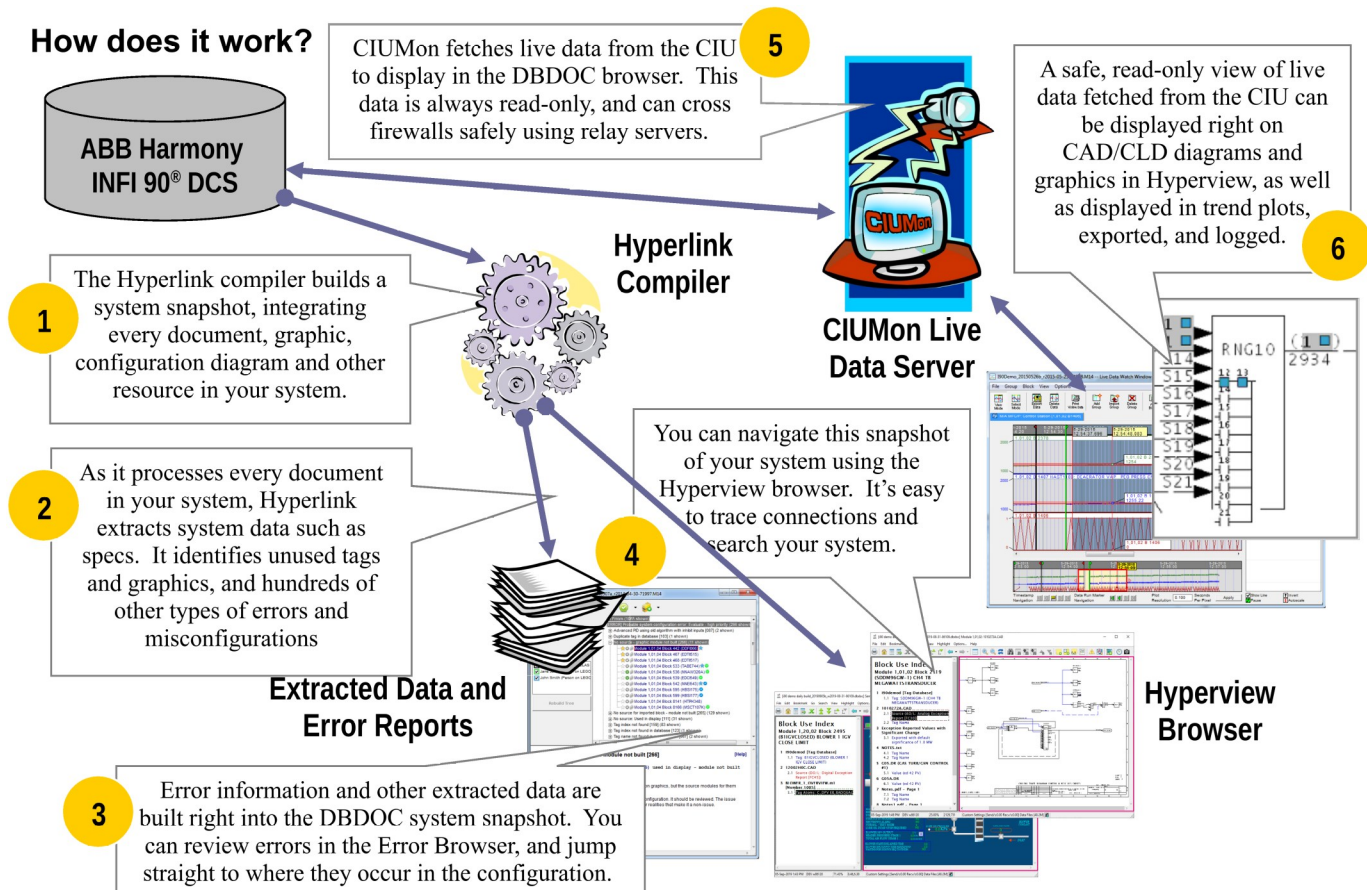
Read on to learn more about important DBDOC features.

What is DBDOC?

- A **safe, read-only snapshot** of your Harmony INFI 90® system or AC 800M system.
- An **integrated** view of all your Composer® and CAD/CLD configuration drawings, graphics and databases, as well as third party resources like OsiSoft PI®, AutoCAD® and MicroStation® drawings, and any other
- An amazing suite of **troubleshooting and analysis** tools.
- The ability to **view live data for every block in your system**, even remotely.
- **Lightweight data trending**, especially for blocks not visible to ABB history software.
- A **perfect training environment** in which new operators and engineers can familiarize themselves with the system and learn fault finding techniques.
- The perfect companion for **effective audits**, efficient system **conversions** and system **cleanup**.



How does it work?



Signal tracing and troubleshooting have never been easier.

DBDOC's unique **point and click browser interface** makes it easy to trace signals throughout your system. Every resource is cross-linked and at your fingertips, making for efficient and effective troubleshooting.

- Just **double-click to trace a signal** from a graphic all the way to the slave.

When you click on a value, every place it is used is listed in this index.

Double click on any point in a graphic, and its source in the configuration is instantly displayed.

Clicking on any of the places the value is used will cause the use to be displayed in the browser. Even third party resources like MicroStation® and AutoCAD® drawings are linked in here. You can even include PDF documentation.

Double click again to trace the signal all the way back to the slave!

- **Right-click to follow any use** of a value, from configuration to graphics.

With a right-click, you can choose any of the uses of a value, and display it in the browser, all in one simple step.

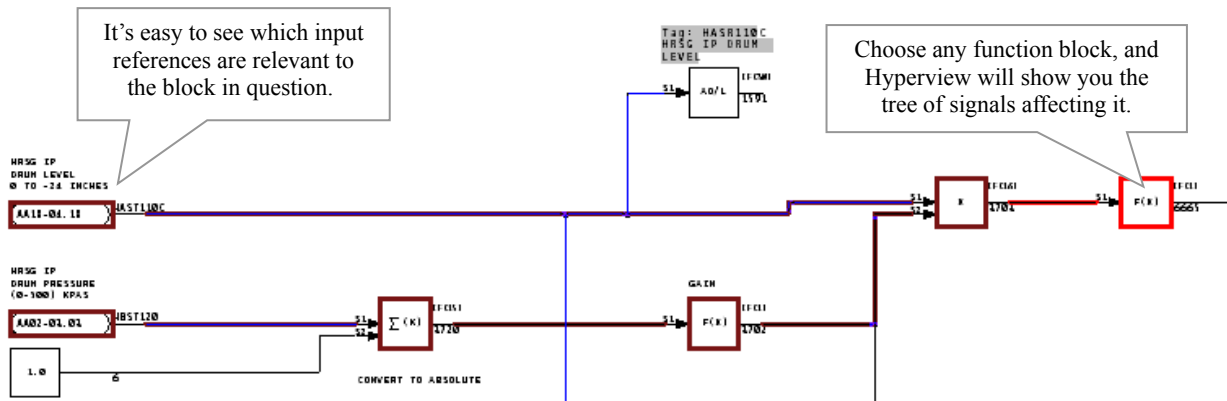
Jump to any use of a value, directly from the popup menu!

Retrace to (G05ADR) Value (ed 42 PV)

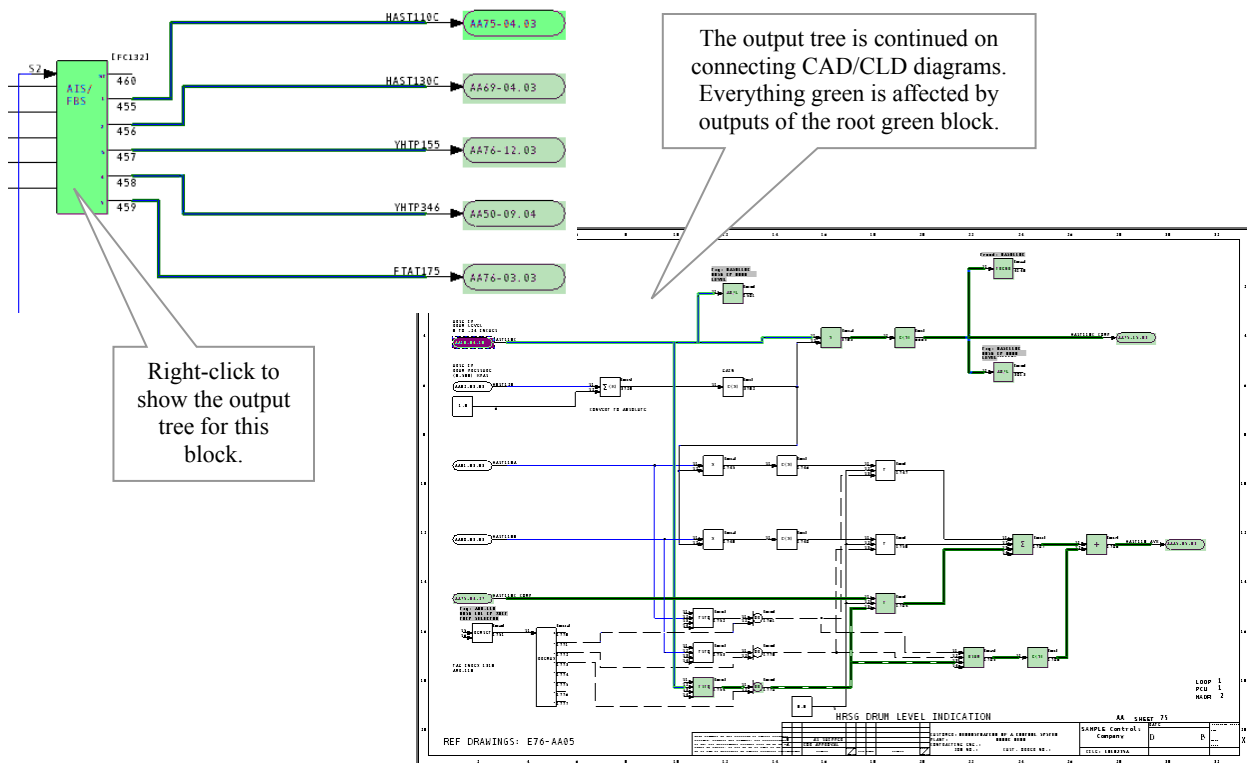
Visual signal tracing tools let you see dependencies at a glance.

DBDOC can show you **input and output trees** for any block, allowing you to understand control flow at a glance, and making it even easier to trace connections and track down problems.

- Just right-click on a function block to see the **input tree** of signals that affect it. This tree can be traced to other CAD/CLD sheets via the input references.



- You can show the **output tree** for a block just as easily. As you trace signals onto other sheets, you can visually confirm that they are affected by the output of the original block of interest.



Safe, read-only live data on every document.

- A **safe, read-only** view of live system data.
- Convenient **NERC compliant remote access** to live system data.
- **Incredibly efficient fetches.** DBDOC never fetches data you can't see.
- Live data on **MicroStation® and AutoCAD®** drawings.
- Live values in **ABB® Rung Block internal logic** shown right on the CAD or CLD.
- With add-on **RoviSys Turbo®**, live data can be increased 2-10x with decreased system load.

The screenshot displays the DBDOC software interface with several callouts highlighting key features:

- Live data on graphics:** A callout points to a pressure gauge on a MicroStation drawing showing a value of 223.00. Another callout points to a 'RUN' button on a gas compressor graphic.
- Logic state labels on graphics:** A callout points to 'YES' labels on loading station graphics.
- Live values on internal logic:** A callout points to numerical values (13.00, 299.2656, SPEED) displayed on the inputs of a logic block.
- Operator graphics mimic:** A callout points to a bar chart showing 'AERATION AIR FLOWS' with values T1, T2, T3, and T4.

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Plot and export live data for any block in the system.

- **Plot live data from any block** in the system, including blocks without tags.
- **Automatic logging** of all plotted data.
- Mouse drag selection makes it easy to **visually select and export** data.
- Easily **import data into other applications** such as Microsoft Excel® for analysis.
- **Scheduled pauses** to make data collection pause automatically when it is no longer needed.

The screenshot displays the DBDOC software interface with several callouts explaining key features:

- With a click of the mouse, create a timestamp to mark a point of interest in the data. You can add notes to timestamps, to help you keep track of interesting locations.** (Callout pointing to a 'custom note' box on the plot)
- Select data with the mouse for easy export.** (Callout pointing to a red selection box on the plot)
- You can add blocks from anywhere in your system to plot them together.** (Callout pointing to a block selection menu)
- Schedule a time to automatically pause data collection for this block.** (Callout pointing to a 'Pause' button in the block details panel)
- Drag the red frame on the navigation plot to scroll to an area of interest on the detailed trend plot above.** (Callout pointing to a red frame on the navigation plot)
- Use the green arrows to jump from data run to data run.** (Callout pointing to green navigation arrows)
- Quickly display points of interest in your data by jumping from timestamp to timestamp.** (Callout pointing to a timestamp navigation button)
- By adjusting the plot resolution, you can see days of data at a time, or zoom in to see a second by second close-up.** (Callout pointing to a 'Resolution' dropdown menu)
- Exported data can be viewed in spreadsheets and other applications.** (Callout pointing to a data table)

Timestamp	Data Run	Marker	Value 1	Value 2	Value 3
2018/03/21 17:00:48	2018/03/21 17:00:48.000		1,541.28	4,976.48	
2018/03/21 17:00:49	2018/03/21 17:00:49.000		1,541.28		
2018/03/21 17:00:50	2018/03/21 17:00:50.000		1,541.28	4,976.48	5,600.25
2018/03/21 17:00:51	2018/03/21 17:00:51.000		1,693.38		
2018/03/21 17:00:52	2018/03/21 17:00:52.000		1,693.38	5,467.58	
2018/03/21 17:00:53	2018/03/21 17:00:53.000		1,693.38		
2018/03/21 17:00:54	2018/03/21 17:00:54.000		1,693.38	5,369.36	
2018/03/21 17:00:55	2018/03/21 17:00:55.000		1,662.96		
2018/03/21 17:00:56	2018/03/21 17:00:56.000		1,815.06	5,860.46	
2018/03/21 17:00:57	2018/03/21 17:00:57.000		1,815.06		

Search documents or the database for text or blocks of interest

With DBDOC, you can instantly **find any word or text** in your Harmony INFI 90 system. All document types, including CAD sheets, graphics, databases, AutoCAD sheets, text files, embedded PDFs, batch and ladder files can be searched with equal ease.

- **Full text search** allows you to find text anywhere in your system, in any kind of document.

The screenshot shows the 'Search' dialog box with 'Full Text Search' selected. The search phrase is 'sludge'. The 'Scope' section is set to 'All Topics'. The 'Results display' section has 'Show Loop, PCU, Module, Block' checked. The search results are displayed in a table:

Topic Title	Loop	PCU	Module	Block	Group
Module 2, 10.03 Block 6160	2	10	3	6160	Block Indices, 7
Module 2, 10.03 Block Index	2	10	3		Block Indices, 7
Module 2, 10.03 Tag Index	2	10	3		Module Indices
Sample Conductor NT Graphics: GAS STORAGE AND CO...					Graphics, Sam...
Tag Database: 190demo1 (Veloclient-data\90demo1.e...					Taglets
Tag: FT19016 (SLUDGE GAS FLOW)					Databases
Tags beginning with F					Tag Map Paper

Annotations in the image include:

- A red circle around the search phrase 'sludge' with a callout: "It's easy to narrow your search to particular document types."
- A red circle around the search results table with a callout: "Search results are highlighted right on the graphic."
- A red circle around a specific result in the table with a callout: "Double-click to display any search result in the browser."

- **Database search** makes it easy to find particular blocks by number, tagname, or description text.
- **Topic title search** lets you find topics of interest interactively and incredibly quickly.

The screenshot shows two search windows. The left window is 'Database Search' with 'Enter text in any box or boxes to find tags in' set to 'sdm'. The search results show:

Topic Title	Loop	PCU	Module	Block	Group
Tag: SDDM001 (VAP TB MEGAWATTSTRANSUCER)	1	1	2	2341	staba
Tag: SDDM96GW-1 (CH4 TB MEGAWATTSTRANSUCER)	1	1	2	2119	staba

The right window is 'Full Text Search' with 'Type a word:' set to 'sdm'. The search results show:

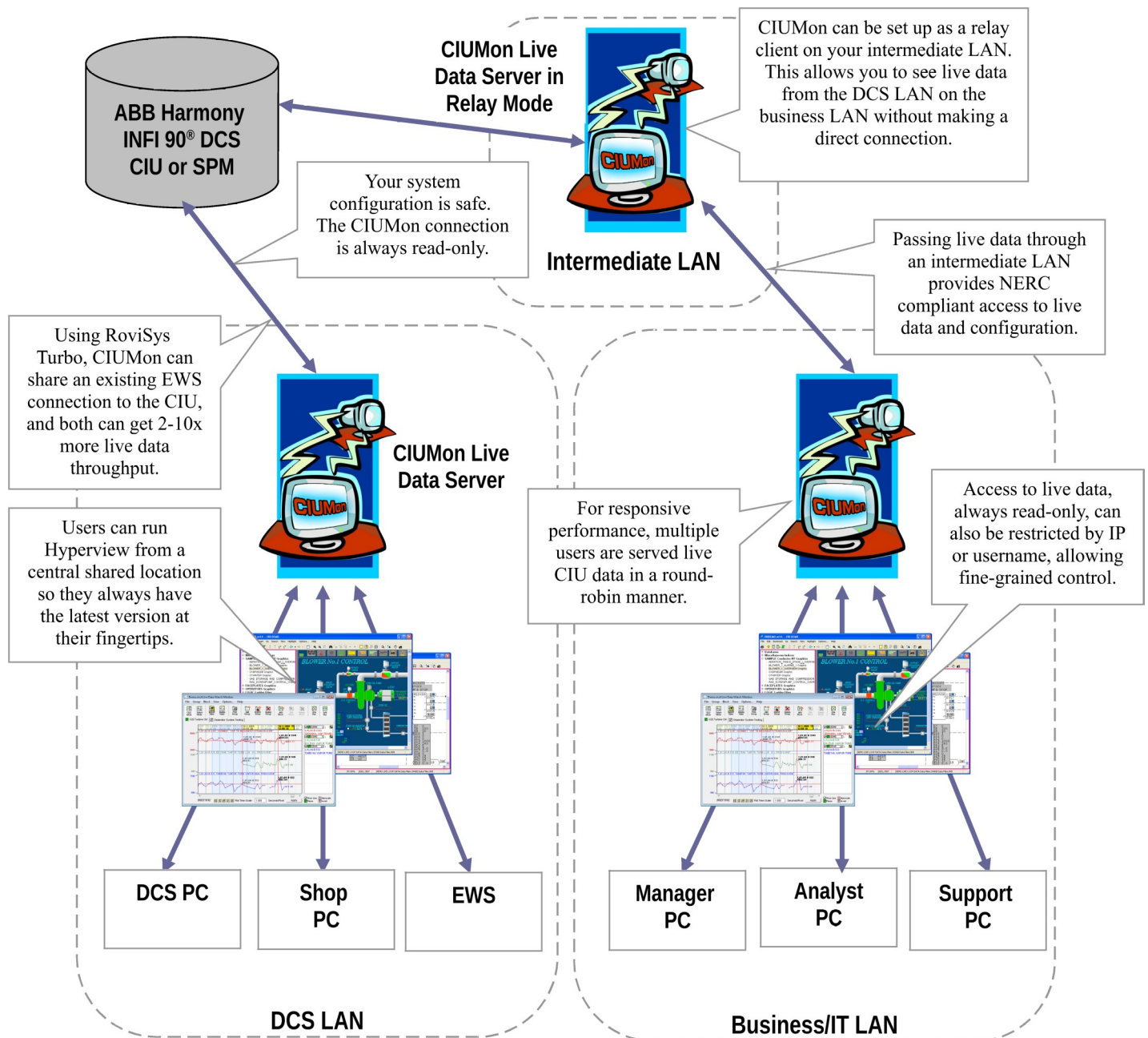
Document Name
29107.dxf [CAD Export Documentation]
29206.dxf [CAD Export Documentation]
29208.dxf [CAD Export Documentation]
29209.dxf [CAD Export Documentation]

Annotations in the image include:

- A callout pointing to the 'sdm' search term: "Finds all blocks in the database whose tagnames start with 'sdm'"
- A callout pointing to the search results table: "With topic title search, just start typing. Topic titles instantly appear!"
- A callout pointing to the search results list: "As always, the topic you want to see is just a double-click away."
- A callout pointing to the search results table: "Finds all blocks in the database with 'megawatt' in the description text."
- A callout pointing to a specific result in the table: "Double-click to see the source of the block you were looking for!"

Safe, read-only system access from the business LAN and offsite.

- Safely troubleshoot, perform system analysis, and train support staff on your **business LAN**.
- DBDOC provides **read-only access to your system** at home, on courses, and on other projects, and in other parts of the plant.
- For **total NERC compliance**, a relay server can be used to pass live data via an intermediate LAN.
- With add-on software **RoviSys Turbo**®, get 2-10x more live data without overloading your system.



View and manage system errors with the integrated error browser.

- While building your project file, DBDOC **detects errors in your system configuration**. These are built right into the project file and can be viewed using **the integrated error browser**.
- You can **review** errors, **flag** them for attention, and permanently **hide** them from view.
- Errors are **classified according to severity**, so you can easily focus on those that are most serious.
- Errors can be **filtered, grouped and sorted** in a wide variety of other ways, to make them easy to understand and correct at the source.
- **Click on an error to display its location** in the main Hyperview browser.
- Error **documentation** is built right into the error browser.

The screenshot shows the 'Error Browser' window with a list of errors. Callouts provide the following information:

- Filter, group, and sort errors in a variety of ways, to identify those of most concern.** (Points to the 'Show these errors' sidebar with filters for Severity, Error Name, and Sort by).
- Errors can be marked with checks and stars, or hidden entirely if they are not a concern.** (Points to the star and checkmark icons in the error list).
- Errors are displayed in a tree that can be organized in various ways to give you a good overview of the errors in your system.** (Points to the tree view of errors).
- Click on an error in the error tree to display the associated location on a CAD or graphic in the main Hyperview browser.** (Points to a red arrow connecting an error in the list to a TSTQ block in the Hyperview browser).
- Click on an error marker to display the error details in the error browser.** (Points to a yellow warning icon on a TSTQ block in the Hyperview browser).
- Stars and checks from other users can be displayed and used in filtering errors. This helps multiple users share the task of error review.** (Points to a star icon on an error in the list).
- Clicking on an error displays error information and documentation right in the error browser.** (Points to the expanded error details for 'TSTQ Module 1,01,02 Block 1870 tests Module 1,01,02 Block 3815 (FC 15), which does not have quality').
- Integrated error documentation provides convenient information about the underlying system misconfiguration.** (Points to the 'Error Description' text in the expanded error view).
- Multiple users can share help review errors, and have their updates interactively displayed in the error browser.** (Points to the 'Include stars/checks from' section in the sidebar).

View graphics, PDFs, and third party drawings.

With DBDOC, you can integrate system graphics, third party documents like AutoCAD and MicroStation drawings, and arbitrary PDFs into one cross-linked and searchable representation that you search and browse. Text documentation and many other system support documents can also be included.

PDF documents can be built into the dbdoc project, making them searchable and cross-linked with your system documentation.

Include all your AutoCAD and MicroStation drawings too!

Thumbnails for all graphics types are built into the dbdoc file, to make it even easier to navigate.

Every CAD/CLD in your system is built in and cross-linked as well, making it trivial to start at a graphic, and trace connections to the source in the configuration.

1010214A.CAD
 1010215A.CAD
 1010216A.CAD
 1010217A.CAD
 1010218A.CAD
 1010219A.CAD
 1010220A.CAD
 1010221A.CAD
 1010222A.CAD
 1010223A.CAD
 1010224A.CAD
 1010225A.CAD
 1010226A.CAD
 1010227A.CAD
 1010228A.CAD
 1010236A.CAD
 1010238A.CAD
 1010239A.CAD
 1010240A.CAD
 1010241A.CAD
 1010242A.CAD
 1010243A.CAD
 1010244A.CAD
 1010246A.CAD
 1010247A.CAD
 1010248A.CAD
 1010249A.CAD
 1010251A.CAD
 1010252A.CAD

Integrated tools, reports, and indexes make your job easier.

Without DBDOC, there is no easy way to see which blocks are imported from and exported to PCUs in your system. Figuring this out manually is laborious and error-prone. With DBDOC's **PCU Interaction Report**, this **import and export information is at your fingertips**.

- Find every block exported by a PCU **before taking it out of service**.
- Decouple parts of the plant by **finding and addressing dependencies**.

Report of blocks imported into and exported from each PCU

PCU Report Page 1: 1,01 to 1,25
 PCU Report Page 2: 1,30 to 1,32

PCU Report Page 1:

How to read this report:
 The PCU on the left is read first, then "E" or "I", then the PCU on the right.
 "E" means "PCU left exports to PCU top."
 "I" means "PCU left imports from PCU top."
 The number preceding "E" or "I" is the export or import count.

1,01	1,02	1,03	1,05	1,06	1,10	1,15
1,01	4I 9E	4E		2I 4E	4I 1E	22I 12E
1,02			3E			
1,03						
		3E				
			9E			
				1I 4E		43I 10E
		12I 22E	5I	13I 43E		
			3I	9E	1I 1E	2I 27E
	16I 3E	20I 3E	8I 4E	45I 7E	34I 2E	
	1I	25I 5E	2E	4I 16E	15I 5E	2I 5E
	6I		13I	23I		6I

With a single click, display a summary report for any given PCU pair.

Interactions between PCU 1,01 and PCU 1,06

PCU 1,01 exports to PCU 1,06

- Exported Point Module 1,01,02 Block 4262 Imported by Module 1,06,02 Block 8100
- Exported Point Module 1,01,02 Block 4263 Imported by Module 1,06,02 Block 8101
- Exported Point Module 1,01,02 Block 4264 Imported by Module 1,06,02 Block 8102
- Exported Point Module 1,01,02 Block 4265 Imported by Module 1,06,02 Block 8103

PCU 1,01 imports from PCU 1,06

- Module 1,01,02 Block 1905 gets value from Module 1,06,02 Block 2151
- Module 1,01,02 Block 1865 gets value from Module 1,06,02 Block 4315

The PCU Interaction Report shows you every dependency among PCUs at a glance.

One of the many tools DBDOC provides is a **graphical block map**, showing at a glance how every block in your system is used.

- See **used and unused** blocks.
- Instantly identify **blocks with no source**.
- See **exported blocks** at a glance.

DBDOC provides a variety of useful reports and summaries for every module.

The graphical block map shows at a glance how blocks are used throughout your system.

Block 2007 is used but not tagged

Block 2040 is used and tagged.

Block 2206 is used on a graphic but not sourced in the configuration. Likely an error.

Click on any block to display its source in the configuration.

Module 1,01,02 Reports

- List of Used Blocks
- List of Unused Blocks
- Blocks with No Source in Config
- Blocks with No Source used in G
- Blocks with No Source tagged in G
- List of Unused Tags

Graphical Block Map

Blocks 0-499
 Blocks 500-999
 Blocks 1000-1499
 Blocks 1500-1999
 Blocks 2000-2499
 Blocks 2500-2999
 Blocks 3000-3499
 Blocks 3500-3999
 Blocks 4000-4499
 Blocks 4500-4999
 Blocks 5000-5499
 Blocks 5500-5999
 Blocks 6000-6499

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2040	2041	2042	2043	2044	2045	2046			
2060	2061	2062	2063	2064	2065	2066			
2080	2081	2082	2083	2084	2085	2086			
2100	2101	2102	2103	2104	2105	2106			
2120	2121	2122	2123	2124	2125	2126	2127	2128	2129
2140	2141	2142	2143	2144	2145	2146	2147	2148	2149
2160	2161	2162	2163	2164	2165	2166	2167	2168	2169
2180	2181	2182	2183	2184	2185	2186	2187	2188	2189
2200	2201	2202	2203	2204	2205	2206	2207	2208	2209
2220	2221	2222	2223	2224	2225	2226	2227	2228	2229
2240	2241	2242	2243	2244	2245	2246	2247	2248	2249
2260	2261	2262							

LIMITS?

S1 → H//L (12) 2165 2166

Browser Hyperview

DBDOC Browser Hyperview, which supports Hyperview's basic functionality in a touch-screen friendly browser framework, suitable for tablets over wifi, and in most browsers on any networked machine. User accounts add an extra layer of security.

Browser Hyperview supports the following:

- Basic index and hotspot based navigation.
- Text and title search.
- Live data on documents.
- Bookmarks and home pages.

DBDOC Login

To use Browser Hyperview, log in and connect to a Hyperview Service.

Browser Hyperview runs in most web browsers. The interface is very similar to Desktop Hyperview.

Live data on documents is fully supported.

Larger buttons, pinch-zoom, drag-pan, and a revised menu structure make Hyperview tablet friendly.

Index and hotspot-based navigation allows basic signal tracing.

Text search is fully supported.

Title search is fully supported.

Block Use Index
 Module 1,01,02 Block 2086
 (TASS96GRR-2) CH4 TURB VAR TRANSDUCER

1	190demod [Tag Database]	
1.1	Tag: TASS96GRR-2 (CH4 TURB VAR TR...	
2	1010271A.CAD	
2.1	Source (AO/L: Analog Exception Report	
2.2	Tag Name	
3	Exception Reported Values with Significant C	
3.1	Exported with default significance of 1	
4	log41.txt	
4.1	Tag Name	
5	log41a.txt	
5.1	Tag Name	
6	G05.DR (GAS TURB/GEN CONTROL #1)	
6.1	Value (ed 42 PV)	
7	G05A.DR	
7.1	Value (ed 42 PV)	

Full Text Search
 Search phrase or terms: aeration

Search Results
 Searched for topics with the following text: aeration (match exact phrase)
 18 hits found in 9 topics

Topic Title	Group	Hits
Module 1,03,03 Block 1064	Block Use Indice...	2
Module 1,03,03 Block 6410	Block Use Indice...	2
Block Index	Module Block In...	2
AERATION_TANKS_STAGE...	Graphics, Sampl...	4
190demod (L:190demo ne...	Taglists	2
FIC3003 (AERATION CHAN...	Databases	2
PIC3000 (STAGE 1 AERATL...	Databases	2
Tags beginning with F	Tag Index	1
Tags beginning with P	Tag Index	1

Search All Titles
 Type a word: g

Document title

C.T. MW CNTL MNLK
C.T. ON
G05.DR (GAS TURB/GEN CONTROL #1) [Graphics]
G05A.DR [Graphics]
G07
G12
C16
C19
g1bfedar.m1 (number 306) [Conductor N...
g1water.m1 (number 305) [Conductor N...

Attributes and movable specs can be shown on CAD/CLDs.

Tag: TASS96GRR-2
 CH4 TURB VAR TRANSDUCER

AO/L [FC30] 2086

S2 52 (VAR)
 S3 -50.0
 S4 150.0
 S5 100.0
 S6 -5.0
 S7 1.0

TREND [FC66] 2085

S2 1
 S3 0

Support for AC 800M Systems

DBDOC 11.4 supports AC 800M. Whether your system has both INFI 90 and AC 800M or AC 800M only, DBDOC will provide full navigational and search support (live data is not yet supported in AC 800M).

- Click on a function block to see all the places it is used.
- Double click to trace signals to their I/O channel source.
- Search configuration, sequence diagrams, definitions and more quickly and easily.
- AC 800M database is searchable and linked alongside other databases in a mixed system.
- Multi-page sequence diagrams are automatically stitched together for easy visualization.

