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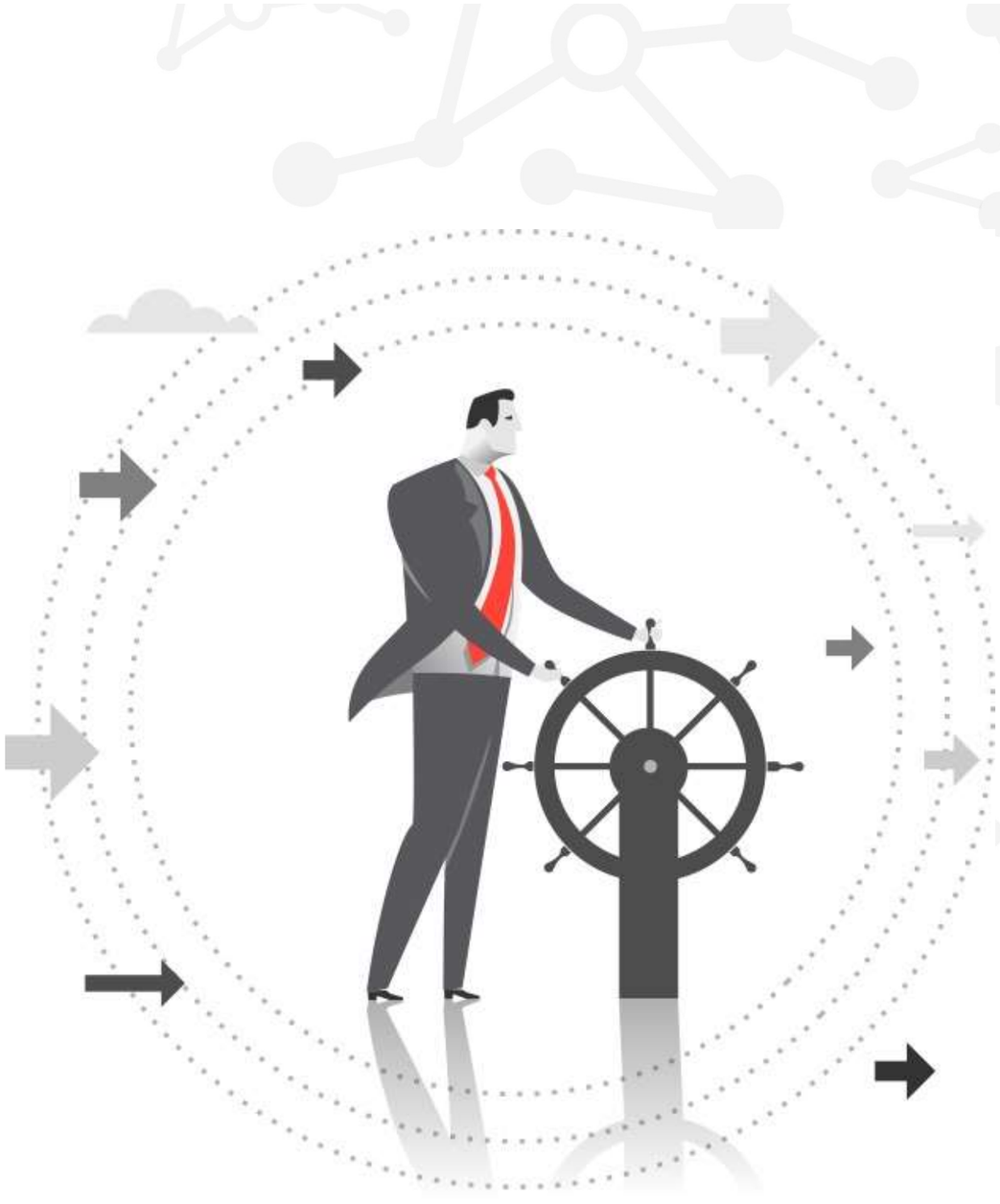
AUDIT MANAGEMENT

Presented by: Zur Bar

Agenda

- Introduction to Beaconsuite software
- Audit Management
- Q&A



BEACONSUITE SOFTWARE

Beaconsuite software is classified for the following tasks:

- Audit management
- Configuration (Standard) management
- Administration management
- Data management
- Viewing

Target for Owner/Operator, EPC company, Vendor or Services Provider

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beaconsuite™

- CooleyCore's Beaconsuite software application contains 16 different modules

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ENGINEERING & DESIGN AUDIT

WHO BENEFITS FROM AUDITING

DOING MORE WITH LESS BUDGET

Roles:-

- SPI Administrators
- Quality Manager
- Package Owners
- Commissioning Teams
- Client Project Team
- Operations
- Engineers & Designers
- Automation Vendors

Loop	Report - Required	Report Required	7934	
		Report Not Required	210	
	Report	Has a Report	7030	
		Does Not Have a Report	0	
	Report Type	CAD	0	
		Enhanced - Custom by loop	0	
		Enhanced - Custom by signal	0	
		Enhanced per loop	7810	
		Enhanced per signal	95	
		Manual	0	
		None	132	
	Enhanced Reports Positioned	Has Positional Data	7842	
		Does Not Have Positional Data	188	
	Revision	Has Revision	7407	
		Missing Revision	401	
	Revision Details	Decommissioned / Demolished	0	
		As-Built	0	
		IFC / IFP	7317	
		Other	90	
	Drawing Name	Valid Drawing Name	0	
		Invalid Drawing Name	8006	

Areas:-

- Project - progress & completion Readiness
- Project status & readiness for closeout
- SPI / SI upgrade
- Conformity to standard
- Clowning / Blending data
- SPI/SI db health

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INSIGHT

Features

- Dozens of different engineering audit reports comprised of hundreds of queries
- Compiles the analysis of multiple queries into powerful, meaningful reports
- Easy to use interface empowers all stakeholders to do their own audits
- Audit reports encompass easy to read graphs, technical summaries, and detailed data findings
- Monitor/report Engineering design completion progress

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AUDITING APPROACHES – AT A GLANCE UNDERSTANDING

Legend: (M) – Manditory, (AR) – As Required

Name	Entered	Missing	Percentage	Visualization
Tag Name (M)	1429	0	100.00%	
Status (M)	1380	49	96.57%	
Instrument Type (M)	1429	0	100.00%	
Instrument Type Description (M)	1429	0	100.00%	
Instrument Designation (M)	0	1429	0.00%	
Tag Service Description (M)	1427	2	99.86%	
Loop Name (M)	1268	161	88.73%	
Loop Service Description (M)	1201	228	84.16%	
Equipment Name (M)	1376	53	96.29%	
Line Number (M)	1377	52	96.36%	
Site Name (M)	160	1269	11.20%	
P&ID Number (M)	1401	28	98.04%	
Location Plan (M)	1377	52	96.36%	
Location Drawing (AR)	386	1043	27.01%	
EPCM Company Name (M)	0	1429	0.00%	

Name	Entered	Missing	Percentage	Visualization
System (M)	426	1003	29.81%	
I/O Type (M)	1414	15	98.95%	
Signal Type (M)	981	448	68.65%	
Installation Detail (M)	242	1187	16.93%	
Fireproofed (M)	389	1040	27.22%	
Required Power (M)	389	1040	27.22%	
Hart Enabled (M)	101	1328	7.07%	
Manufacturer (AR)	902	527	63.12%	
Manufacturer Model (AR)	820	609	57.38%	
Serial Number (AR)	218	1211	15.26%	
Area Classification (AR)	240	1189	16.79%	
Project Name (AR)	1392	37	97.41%	
Project Number (AR)	0	1429	0.00%	
Winterized (AR)	286	1003	29.81%	
PO Number (AR)	1414	1143	20.01%	

Name	Entered	Missing	Percentage	Visualization
Parent Instrument (AR)	15	1414	1.05%	
Interlock Number (AR)	0	1429	0.00%	
Instrument Range Min (AR)	194	1235	13.58%	
Instrument Range Max (AR)	194	1235	13.58%	
Instrument Range UOM Min (AR)	168	1261	11.76%	
Instrument Range UOM Max (AR)	189	1240	13.23%	
Calibration Range Min (AR)	218	1211	15.26%	
Calibration Range Max (AR)	218	1211	15.26%	
Calibration Range UOM Min (AR)	178	1251	12.46%	
Calibration Range UOM Max (AR)	216	1213	15.12%	
Hart Device Revision (AR)	0	1429	0.00%	
Hart Device Description (AR)	0	1429	0.00%	
FF Device Revision (AR)	276	1153	19.31%	
FF Device Description (AR)	0	1429	0.00%	

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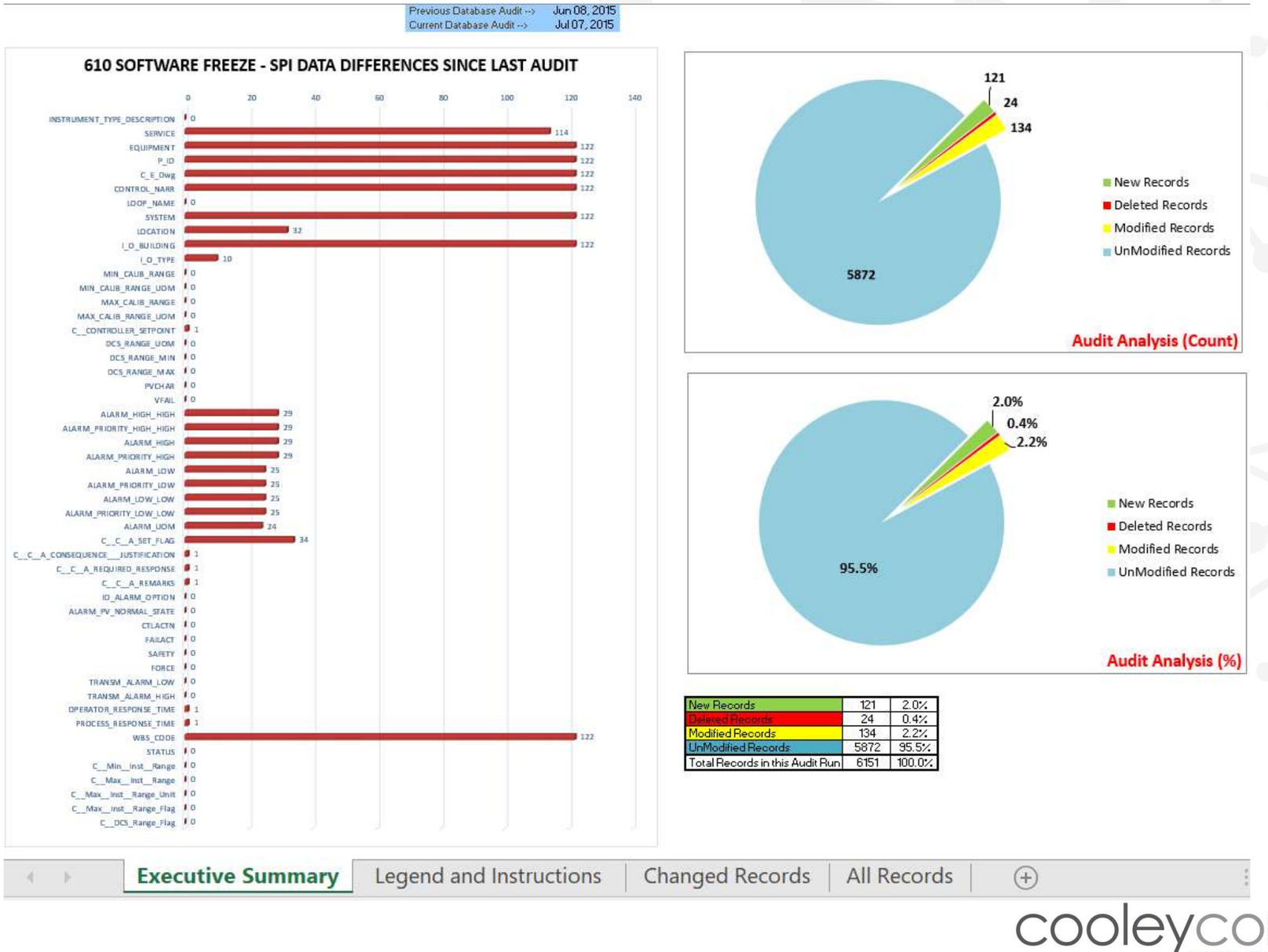
AUDITING APPROACHES - WE CAN DO BETTER

DISTILLED, CONCISE, MEANINGFUL REPORTING

- Graphs speak to people



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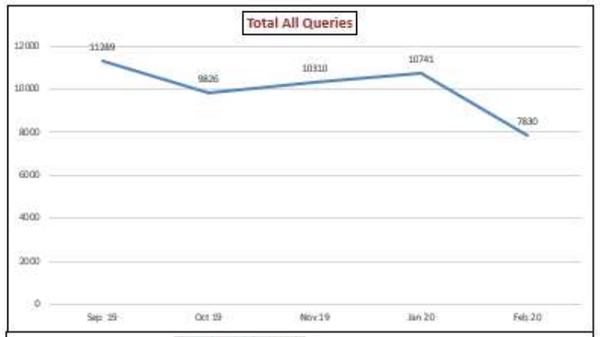
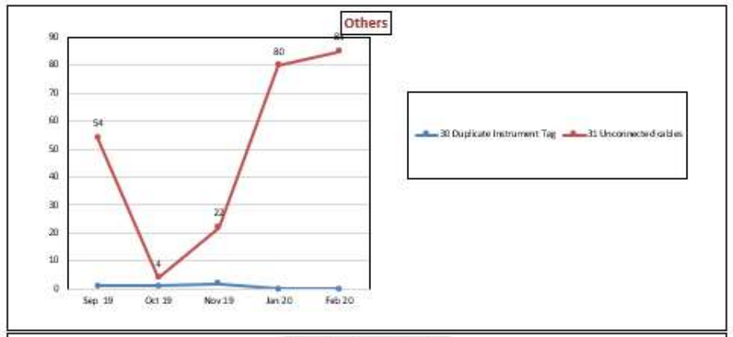
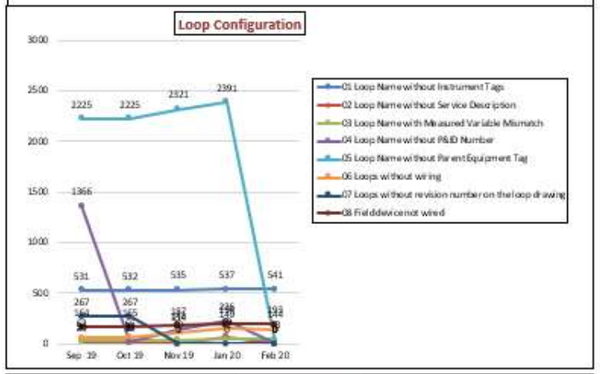
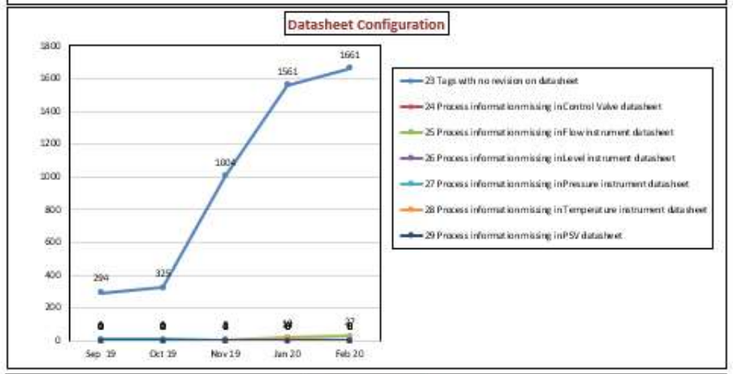
AUDITING APPROACHES - TRENDING

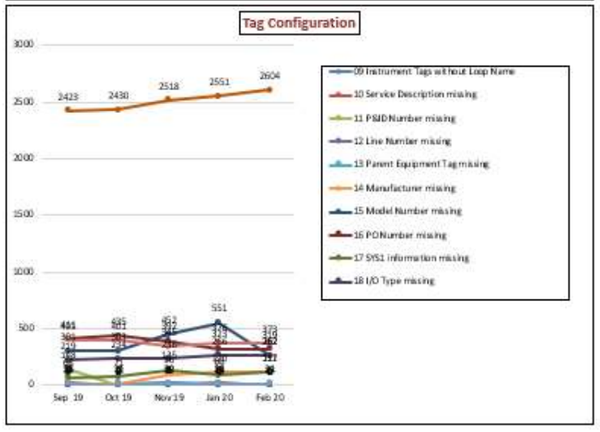
	NO	QUERY	Sep 19	Oct 19	Nov 19	Jan 20	Feb 20
Loop Configuration	01	Loop Name without Instrument Tag	531	532	535	537	541
	02	Loop Name without Service Description	20	9	0	69	0
	03	Loop Name with Measured Variable Mismatch	30	31	40	42	43
	04	Loop Name without P&ID Number	1366	12	143	226	0
	05	Loop Name without Parent Equipment Tag	2225	2225	2321	2391	0
	06	Loops without wiring	62	65	114	149	144
	07	Loops without revision number on the loop drawing	267	267	1	0	0
	08	Field device not wired	164	165	187	194	193
Tag Configuration	09	Instrument Tags without Loop Name	21	21	22	21	21
	10	Service Description missing	18	0	2	18	0
	11	P&ID Number missing	148	0	8	6	6
	12	Line Number missing	2	2	1	3	0
	13	Parent Equipment Tag missing	2	2	1	0	0
	14	Manufacturer missing	6	6	96	120	117
	15	Model Number missing	301	303	452	551	262
	16	PO Number missing	411	435	392	323	319
	17	SYS1 information missing	68	71	135	88	111
	18	I/O Type missing	219	234	236	266	262
	19	Signal Type missing	0	0	1	0	0
	20	Status field - Deleted tags to be removed prior to handover	2423	2430	2518	2551	2604
	21	Instrument Location information missing	13	12	13	13	13
	22	Instrument Tag not linked to datasheets	401	401	345	376	373
Data Sheet Configuration	23	Tags with no revision on datasheet	294	325	1004	1561	1661
	24	Process information missing in Control Valve datasheet	0	0	0	0	0
	25	Process information missing in Flow instrument datasheet	1	2	2	19	27
	26	Process information missing in Level instrument datasheet	0	0	0	0	0
	27	Process information missing in Pressure instrument datasheet	9	9	7	6	6
	28	Process information missing in Temperature instrument datasheet	0	0	1	14	5
	29	Process information missing in PSV datasheet	0	0	0	0	0
Others	30	Duplicate Instrument Tag	1	1	2	0	0
	31	Unconnected cables	54	4	22	80	85
Vendor Datasheet	32	Tag number (Spec) missing - Vendor	1603	1605	1173	661	582
	33	Service Description missing - Vendor	18	0	0	7	0
	34	Min Calibrated Range missing - Vendor	26	26	10	14	13
	35	Max Calibrated Range missing - Vendor	26	26	7	6	5
	36	Max Calibrated Unit missing - Vendor	26	26	7	6	5
	37	Manufacturer missing - Vendor	266	289	219	145	146
	38	Model Number missing - Vendor	266	289	291	277	285
	39	Setpoint for PSV missing - Vendor	0	0	0	0	0
	40	Setpoint for process switch missing - Vendor	1	1	2	1	1
		Total	**11289**	**9826**	**10310**	**10741**	**7830**

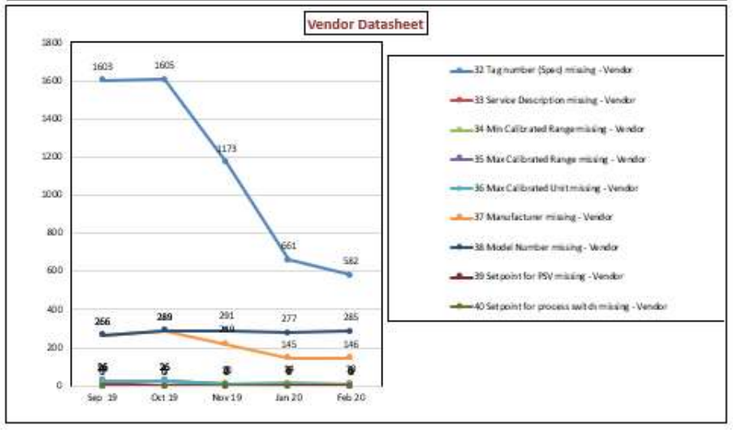












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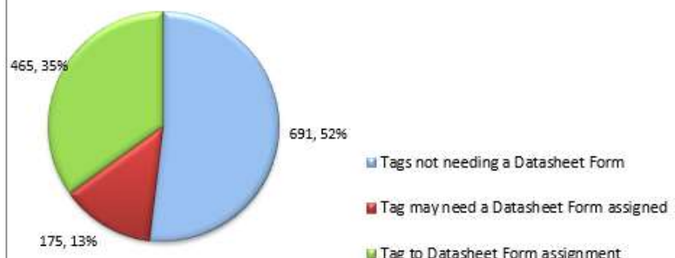
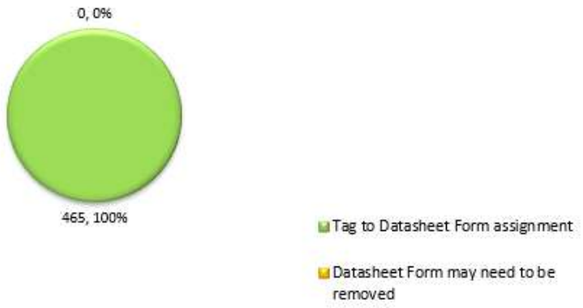
AUDITING APPROACHES – DELIVERABLE ASSESSED

PROJECT CLOSE OUT AUDIT
DATASET REPRESENTS FEB 09, 2020

Instrument Datasheet - Quantification

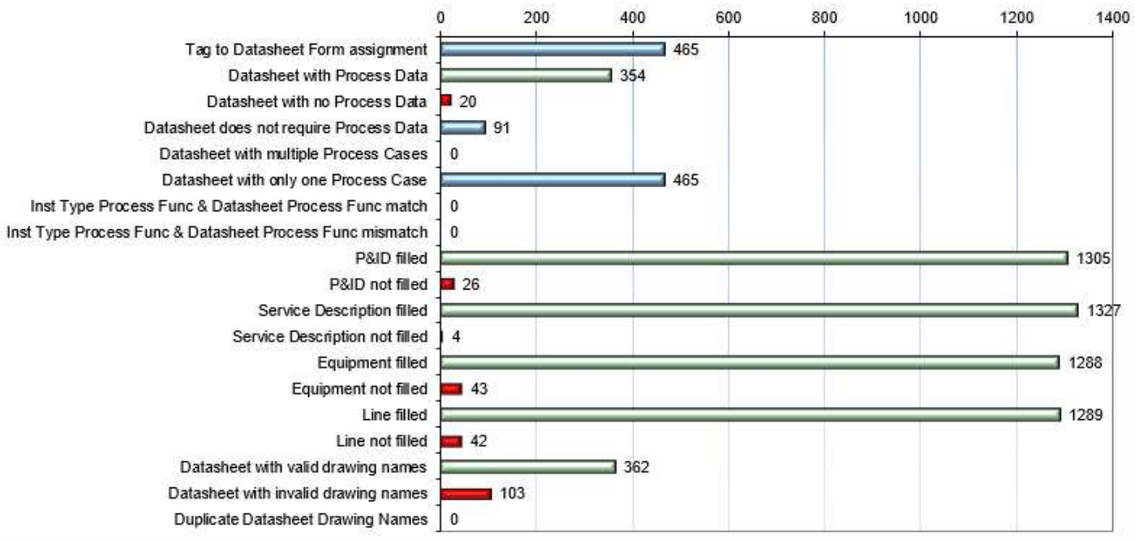


Datasheet Not Needed

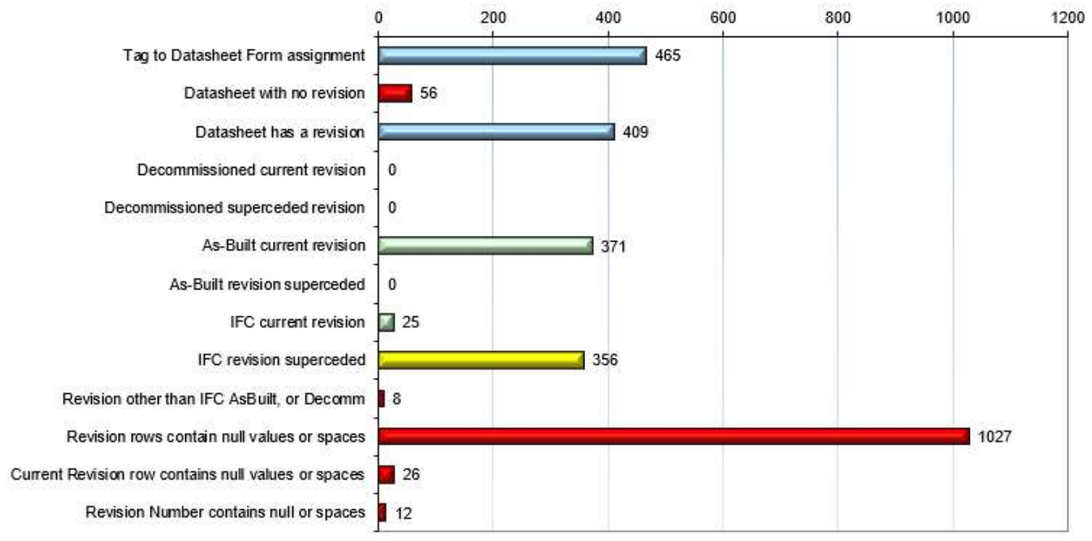


Procurement Analysis

Key Fields That Should be Populated



Datasheet Revision Analysis



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AUDITING APPROACHES - WE CAN DO BETTER

DISTILLED, CONCISE, MEANINGFUL REPORTING

- Compiled results expose meaningful patterns enabling quick resolution

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Instrument Datasheet
Summary Report

Revision:
Feb 10, 20
ISSUED FOR REVIE

DATASHEET PROGRESS REPORT
PROJECT CLOSE OUT AUDIT

Instrument Datasheet - Quantification				Guiding Principles							
Item No.	Finding	Grand Total Records	Percentage	Identification	Integrity	Access	Ownership	Lowest Acceptable Percenta	Score	Guiding Principle – Explanation	Auditor Recommendation
DS001	Tags not needing a Datasheet Form	691	51.9%						Information		
DS002	Tag may need a Datasheet Form assigned	175	13.1%		X	X		0%	Resolution Re	Data must be accurate Data shall be accessible from the user's work location	P&ID Check – Assign Datasheet Form to Instrument Tag, populate key Datasheet fields and apply As-Built revision. Vendor Datasheets (outside of SPI) may exist to source for data which can be As-Built into SPI. Source other engineering document Vendor packages. Field Survey may be required if information can not be obtained from other sources.
DS003	Tag to Datasheet Form assignment	465	34.9%						Information		
DS004	Datasheet Form may need to be removed	0	0.0%		X			0%	Pass	Data must be accurate	Remove non Datasheet Form from Tag.

Procurement Analysis											
DS003	Tag to Datasheet Form assignment	465							Information		
DS004	Datasheet Form may need to be removed	0	0.0%		X			0%	Pass	Data must be accurate	Remove non Datasheet Form from Tag.
DS006	Datasheet Form may need to be removed with revision	0	0%		X			0%	Pass	Data must be accurate	Verify if Tag should have Datasheet Form removed. If so, delete the revisions and remove the form.
DS007	Manufacturer filled	450	97%						Information		
DS008	Manufacturer not filled	15	3%		X	X		0%	Resolution Re	Data must be accurate Data shall be accessible from the user's work location	Field Survey, and data entry. Populate the fields.
DS009	Model number filled	407	88%						Information		
DS010	Model number not filled	58	12%		X	X		0%	Resolution Re	Data must be accurate Data shall be accessible from the user's work location	Populate the model number
DS011	Purchase Order number filled	389	84%						Information		
DS012	Purchase Order number not filled	76	16%		X	X		0%	Resolution Re	Data must be accurate Data shall be accessible from the user's work location	Was this instrument purchased. If so, capture the PO number.
DS013	Serial number filled	407	88%						Information		
DS014	Serial number not filled	58	12%		X	X		0%	Resolution Re	Data must be accurate Data shall be accessible from the user's work location	Populate the serial number

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PROJECT

Features

- Quickly and effectively report all Owner/Operator projects
- Display number of active and inactive projects
- Identify projects that share data and which assets are shared
- Quantify project close out complexity, including claimed, deleted and renamed assets

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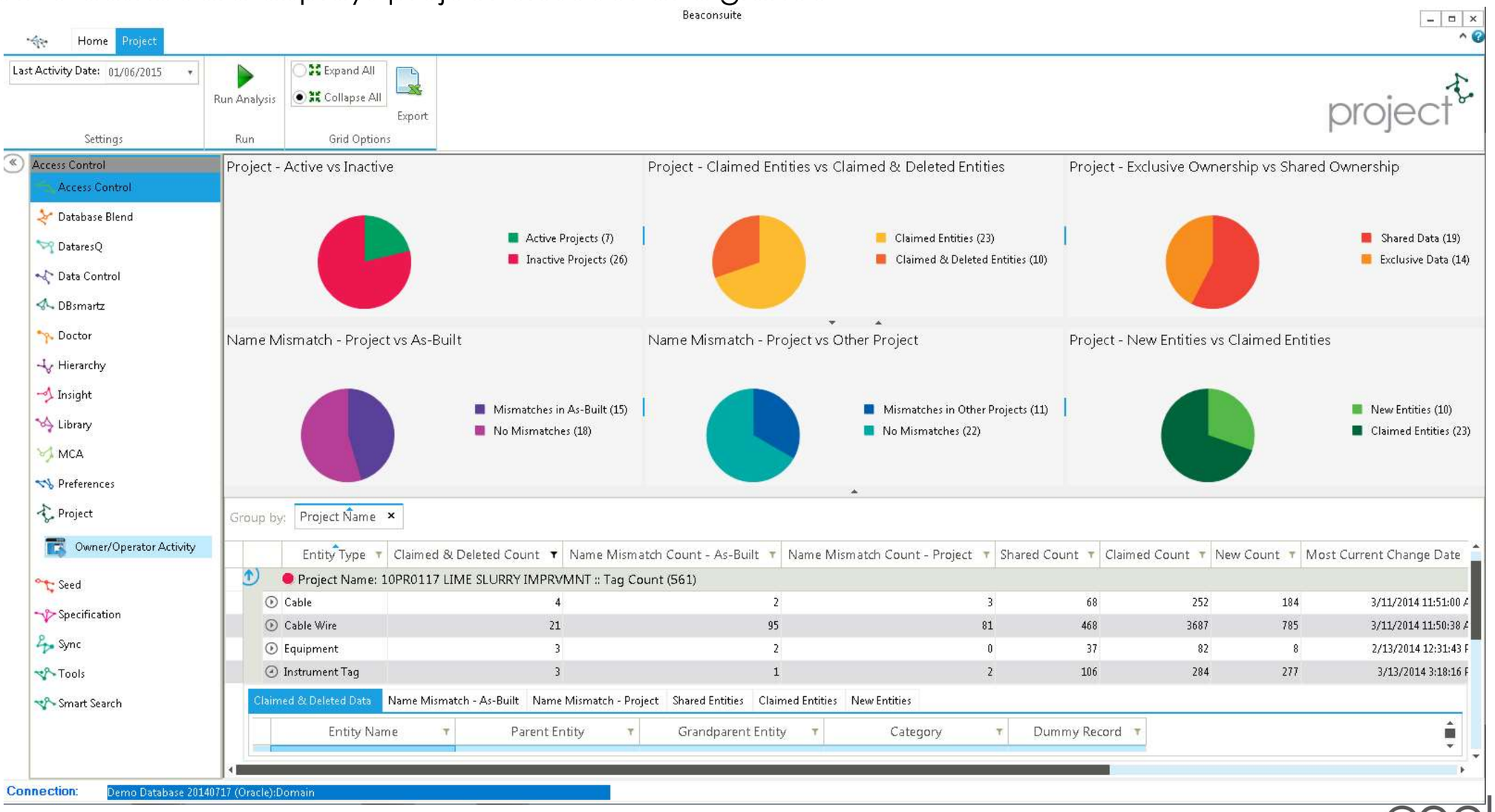
PROJECT CLOSEOUT RESULTS – ACROSS ENTIRE DATABASE

Executive dashboard displays project closeout at a glance



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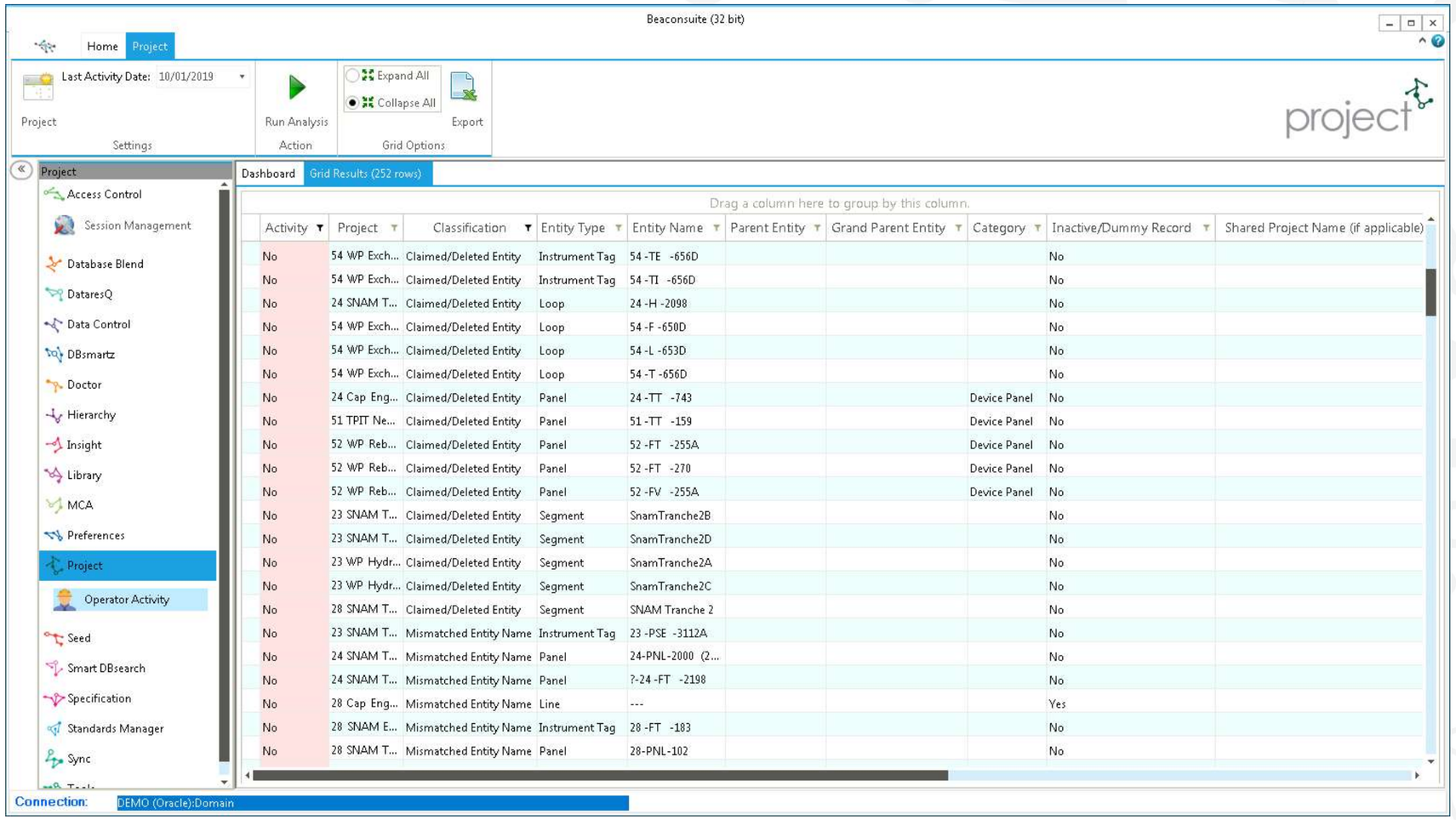
PROJECT – IDENTIFY WHO IS WORKING ON WHAT

Operator Activity

- Claimed Data Analysis
  - Deleted records
  - **Release records**
  - Renamed records
  - Shared records
  - Claimed records
  - New records



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MCA

Features

- Quantify project close out complexity, including claimed, deleted, concurrent/shared and renamed assets; MCA provides recommendations
- Holistically flags deliverable revision issues (across source project, As-Built, and concurrent projects)
- Easy to use functionality to quickly close (merge) projects that have no claimed data
- Empowers file paths stored within SPI tables such as archive file paths per project to be updated after merge / project close out

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MCA

MERGE CLAIM ANALYSIS AUDIT REPORT

PROJECT 10PR0030_MagOx

	Engineering Name	Tag Name	Project	A
Percentage			100.0%	4
GrandTotal			602	
	10PR0030_MagOx	8100-LT -502-J	Y	8100-
	10PR0030_MagOx	8100-LT -502-K	Y	8100-
	10PR0030_MagOx	8100-LT -502-L	Y	8100-
	10PR0030_MagOx	8100-TSH -964-D	Y	8100-1
	10PR0030_MagOx	8100-TT -885	Y	
	10PR0030_MagOx	8100-VT -465	Y	8100
	10PR0030_MagOx	8100-VT -471	Y	8100
	10PR0030_MagOx	8100-XS -501-A	Y	8100-
	10PR0030_MagOx	8100-XS -501-B	Y	8100-
	10PR0030_MagOx	8100-XS -501-C	Y	8100-
	10PR0030_MagOx	8100-XS -502-A	Y	8100-
	10PR0030_MagOx	8100-XS -502-B	Y	8100-
	10PR0030_MagOx	8100-XS -502-C	Y	8100-
	10PR0030_MagOx	8100-XS -503-B	Y	8100-
	10PR0030_MagOx	8100-XS -503-C	Y	8100-
	10PR0030_MagOx	8100-XS -961-D	Y	8100-
	10PR0030_MagOx	8100-XS -962-D	Y	8100-
	10PR0030_MagOx	8100-XS -963-D	Y	8100-
	10PR0030_MagOx	8200-AE -907	Y	8200
	10PR0030_MagOx	8200-ZY -090	Y	8200
	10PR0030_MagOx	8210-AE -907	Y	
	10PR0030_MagOx	8300-AE -105-DE	Y	8300
	10PR0030_MagOx	8300-AE -530	Y	8300
	10PR0030_MagOx	8300-AE -535	Y	8300
	10PR0030_MagOx	8300-AE -540	Y	8300
	10PR0030_MagOx	8300-AE -541	Y	
	10PR0030_MagOx	8300-AE -551	Y	8300
	10PR0030_MagOx	8300-AE -555	Y	8300
	10PR0030_MagOx	8300-AE -578-A	Y	8300-
	10PR0030_MagOx	8300-AIT -105	Y	8300
	10PR0030_MagOx	8300-AIT -123	Y	8300
	10PR0030_MagOx	8300-AIT -124	Y	8300
	10PR0030_MagOx	8300-AIT -154	Y	8300
	10PR0030_MagOx	8300-AIT -184	Y	8300

SUMMARY MERGE CLAIM ANALYSIS REPORT

10PR0030_MagOx

Tag Name	Finding Category	Finding Message	Recommendation
8100-AE -473	Caution	The claimed Loop Drawing has been RENAMED in the Project. Merging the Loop Drawing will result in the Loop Drawing in As-Built being	
8100-AE -473	Caution	The Tag in another Project has been associated to a different Device Cable.	Review the changes to determine if any impact should be applied to the source Project Tag prior to merging into As-Built.
8100-AE -473	Caution	Another Project has the Device Cable CONNECTED at both ends.	Determine if the other Project should be merged prior to the source Project.
8100-AE -901-B	Danger	The As-Built Tag has been DELETED. Merging the Project Tag will restore it in As-Built.	Determine if the As-Built Tag should remain deleted. If idetermined that the As-Built Tag should not have been deleted, proceed with the restore merge. If it is determined that the Tag should not have been claimed into the Project, Release the Project T
8100-AIT -473	Caution	The Project Tag has been claimed into another Project.	Determine if it is neccessary for the Tag to be claimed into more than one Project. Having information in more than one project complicates the merging process of both
8100-AIT -473	Danger	The Project Instrument Datasheet has had no new revisions added since being claimed from As-Built.	Determine if the Tag can be Released versus being merged. If it is neccessary to merge the Tag consider backing up the current Datasheet in the As-Built section into a Temporary Project or a ISF so that it can be restored after the
8100-AIT -473	Caution	The Project Tag is ASSOCIATED to a Control System Tag.	Consider merging the Project Tag with the Control System Tag or a Dummy Project Tag will
8100-AIT -473	Caution	The claimed Loop Name has been RENAMED in the Project. Merging the Loop Name will result in the Loop Name in As-Built being renamed.	
8100-AIT -473	Caution	The Project Tag is associated to a claimed Loop Name in another Project. The claimed Loop Name in the other Project has been RENAMED.	Determine the best order to which these Loop Names across the Projects should be merged.
8100-AIT -473	Caution	The claimed Loop Drawing has been RENAMED in the Project. Merging the Loop Drawing will result in the Loop Drawing in As-Built being	
8100-AIT -473	Caution	The Tag in another Project has been associated to a different Device Cable.	Review the changes to determine if any impact should be applied to the source Project Tag prior to merging into As-Built.
8100-AIT -473	Caution	Another Project has the Device Cable CONNECTED at both ends.	Determine if the other Project should be merged prior to the source Project.
8100-DIT -473-A	Caution	The Project Tag has been claimed into another Project.	Determine if it is neccessary for the Tag to be claimed into more than one Project. Having information in more than one project complicates the merging process of both

ummy Tag	Line Exists			
Another Project	Project	As-Built	Another Project	Location Not Determined
11.0%	54.3%	20.3%	11.8%	0.0%
66	327	122	71	0
	N/A	N/A	Y	
	N/A	N/A	Y	
	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
	N/A	N/A	Y	
	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
Y	N/A	N/A	Y	
	N/A	N/A	Y	
	2"-FR-3027-A-50H-ET	2"-FR-3027-A-50H-ET	Y	
	2"-PW-3149-A-40H-GT	2"-PW-3149-A-40H-GT	Y	
	2"-PW-3150-A-40H-GT	2"-PW-3150-A-40H-GT	Y	
	2"-PW-3150-A-40H-GT	2"-PW-3150-A-40H-GT	Y	
	2"-PW-3151-A-40H-GT	2"-PW-3151-A-40H-GT	Y	
	3/4"-PW-3650-A-25-PF	3/4"-PW-3650-A-25-PP	Y	

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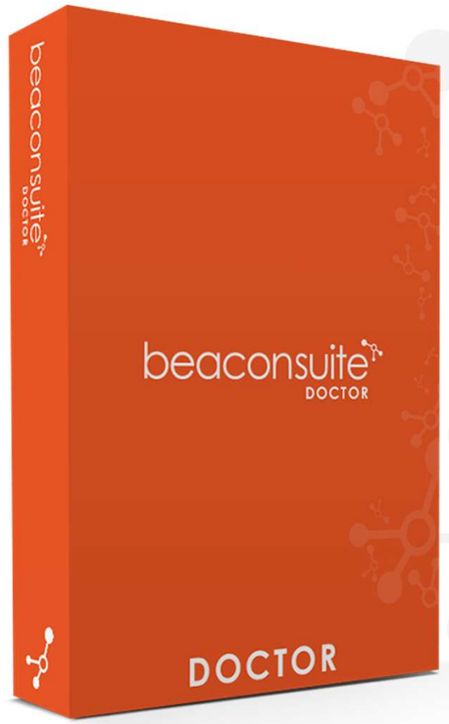
DATA AUDIT

DOCTOR

Features

- Identifies inconsistent use of templates, symbols, title blocks that impact deliverables. Enables the user to fix the inconsistencies immediately
- Identifies loss of external data e.g. external archives (snapshots of deliverable revisions)
- Identifies and fixes data that is located in the wrong Plant, Area, Units. Findings are easily exported to files
- Identifies orphan records (broken links)
- Identifies data that is corrupted and, as a result, is invisible to the front end of SPI



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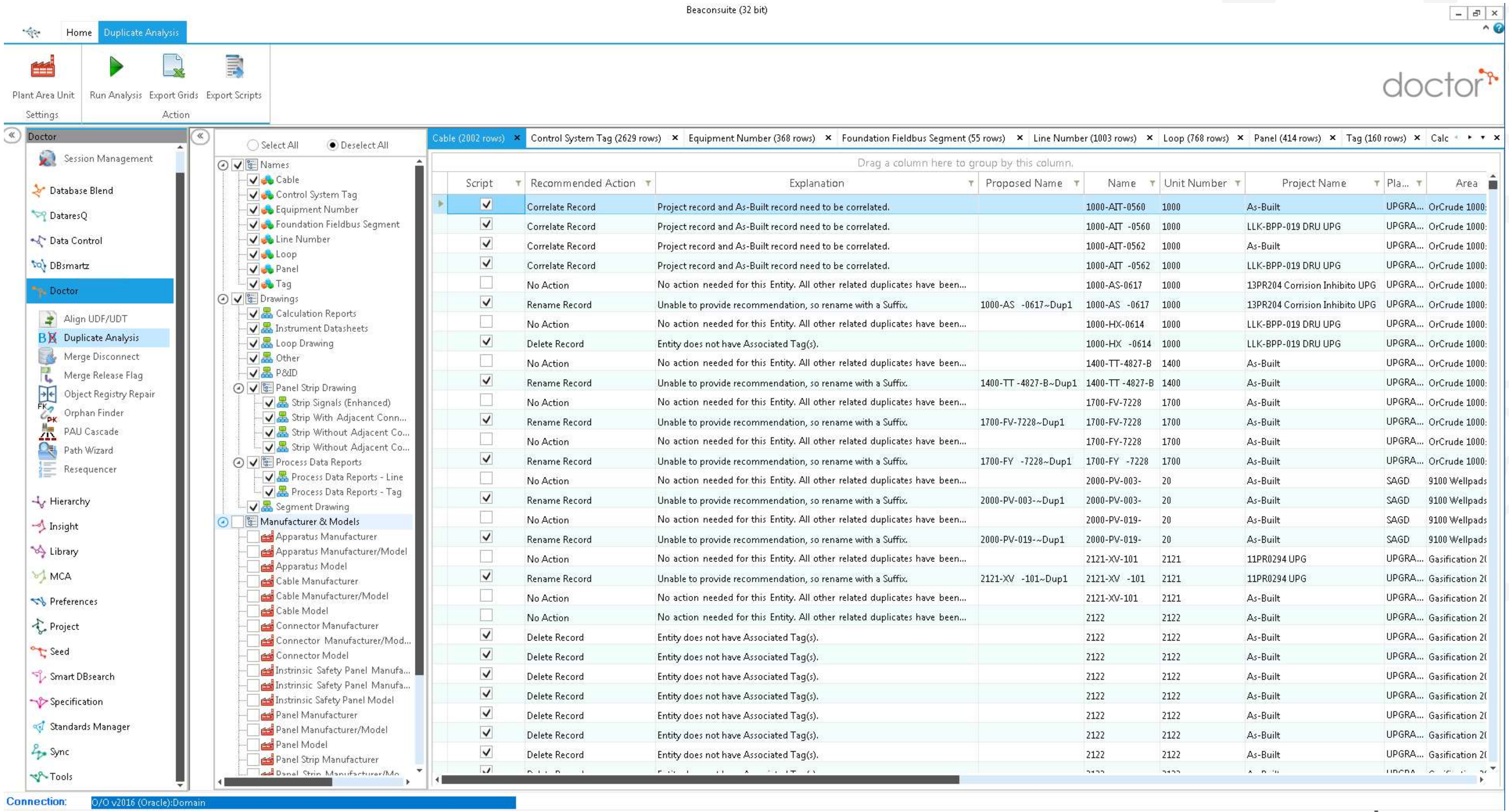
DOCTOR – Duplicate Analysis & Fixes



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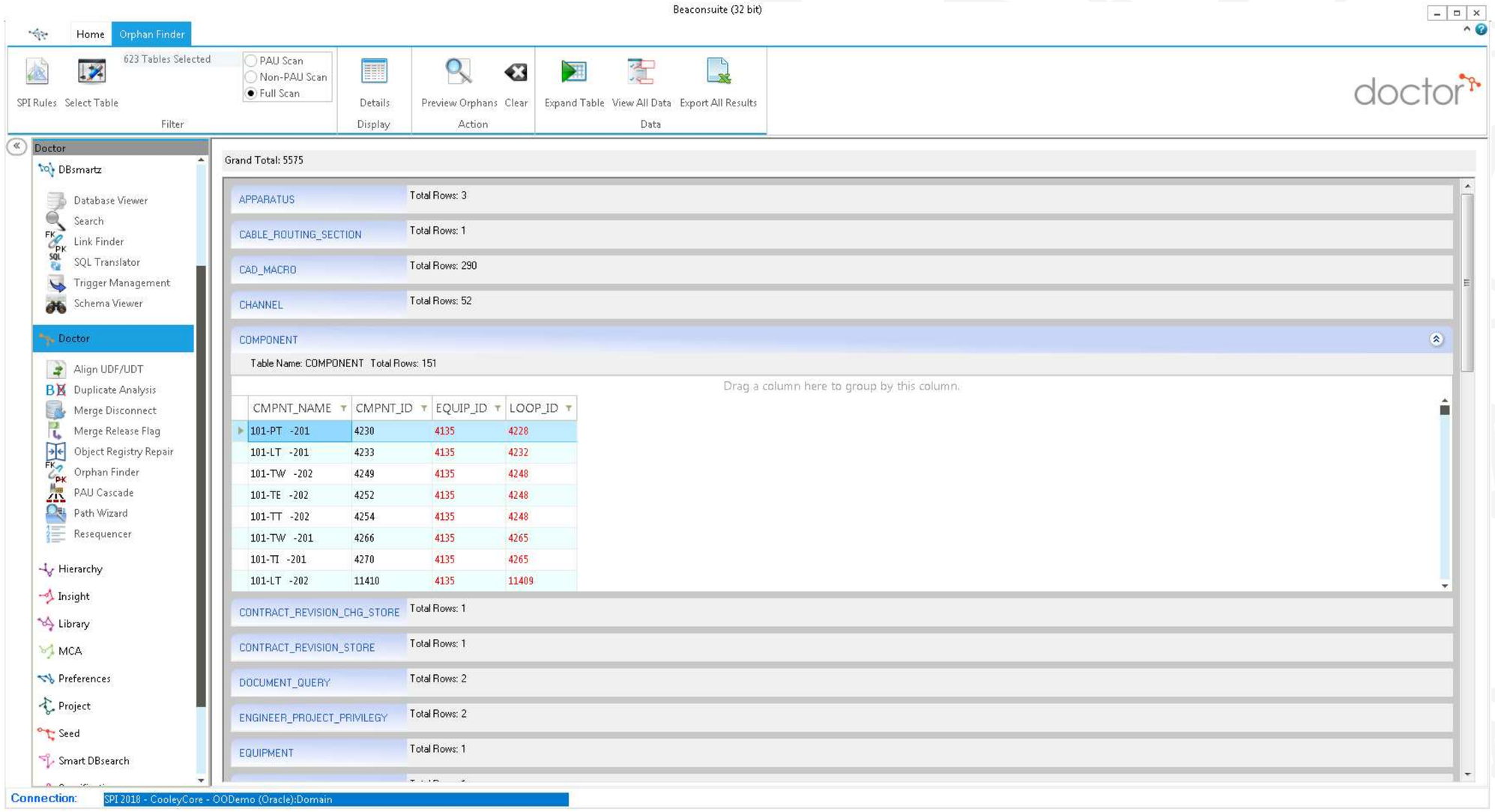
DOCTOR – Orphan Finder –> Pre-Upgrade Cleanup

- Identifies orphan records (records that do not have required parent)

Orphan's will not be registered during the upgrade – hiding legit issues



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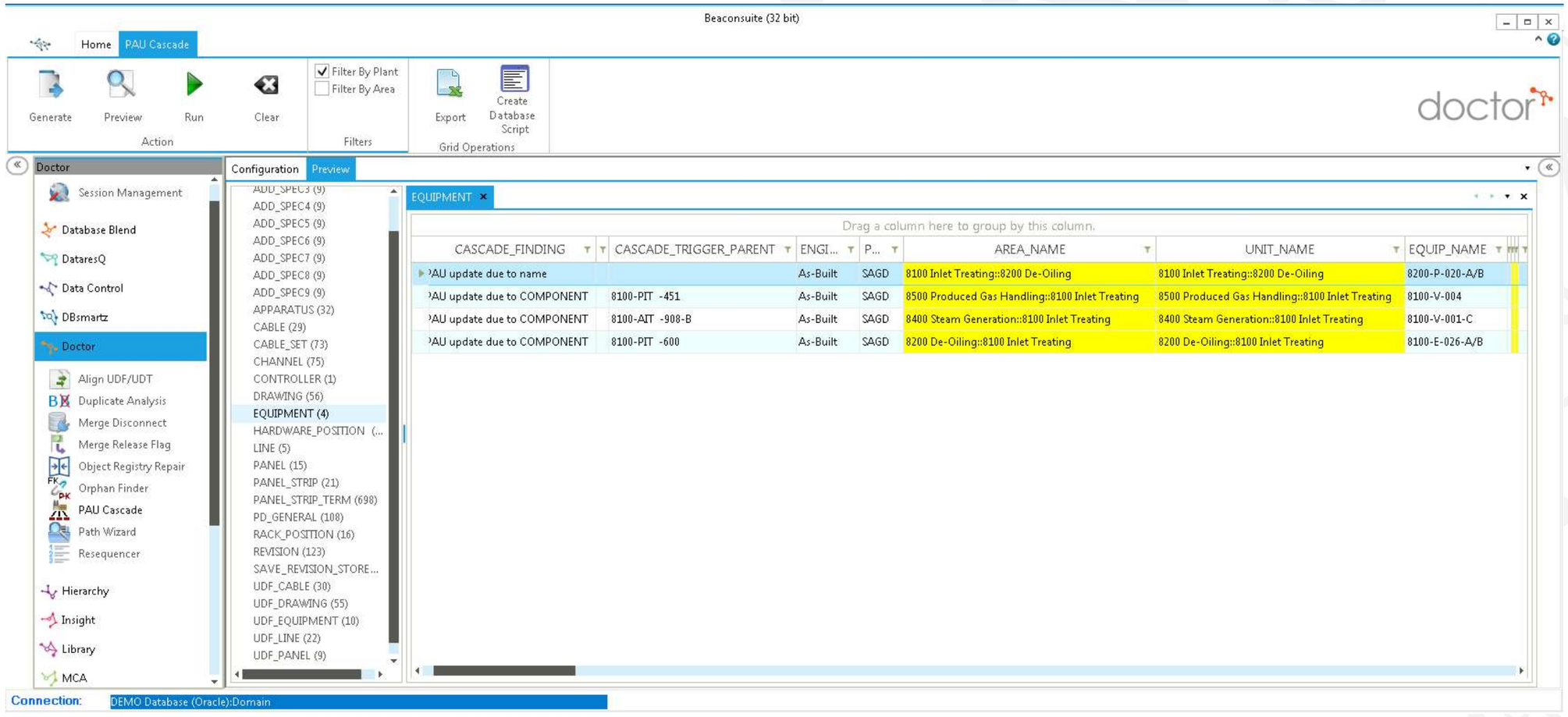
DOCTOR – PAU Cascade–> Pre-Upgrade Cleanup

- Identifies records that exist within incorrect units.
- Proposes and fixes / correctly moves records that exist within incorrect units.



Data located in incorrect units impacts the upgrade object registration process, ability to filter for data and the ability to successfully copy units.

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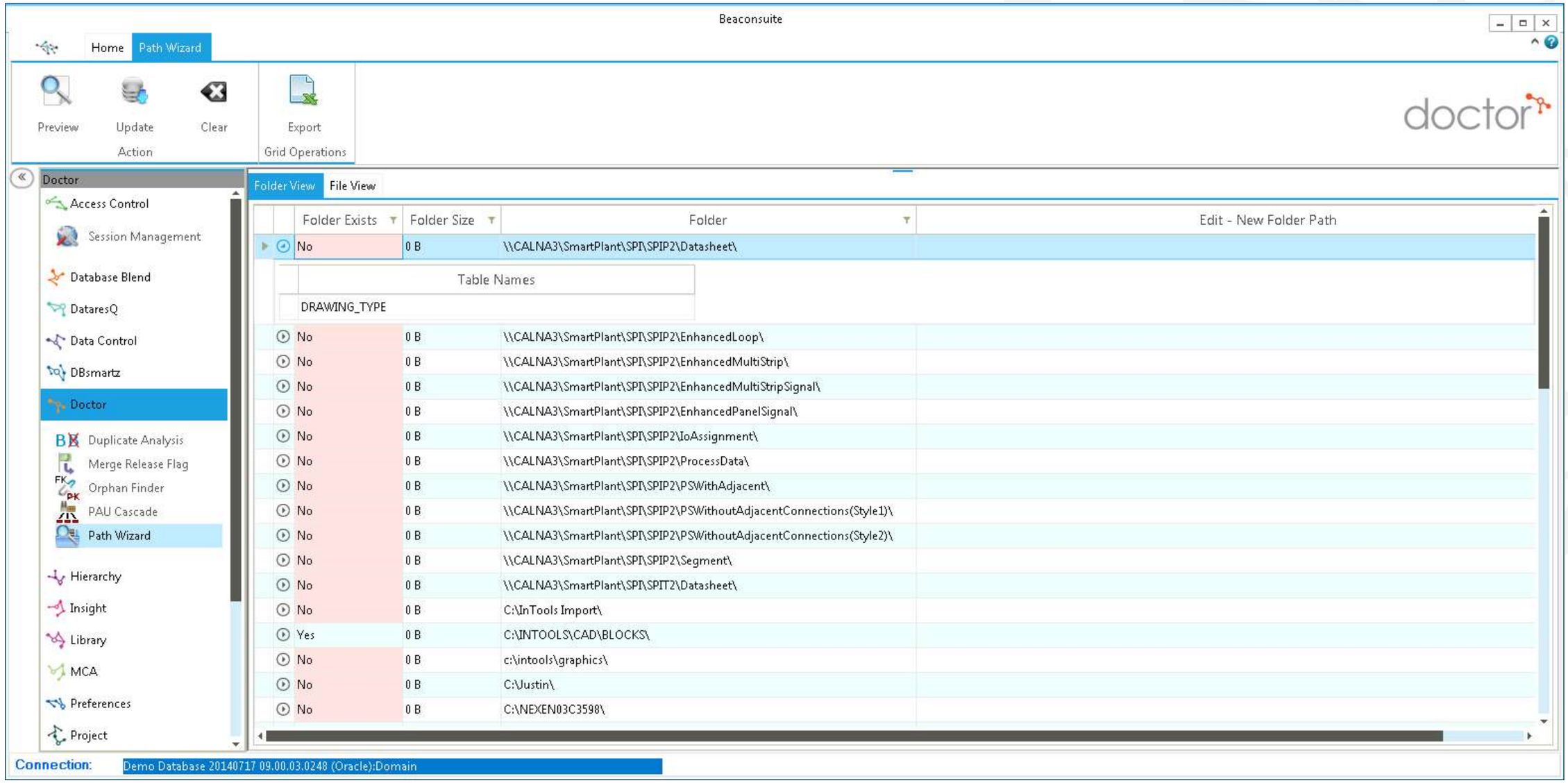
DOCTOR – PathWizard – Broken Paths Identified & Fixed



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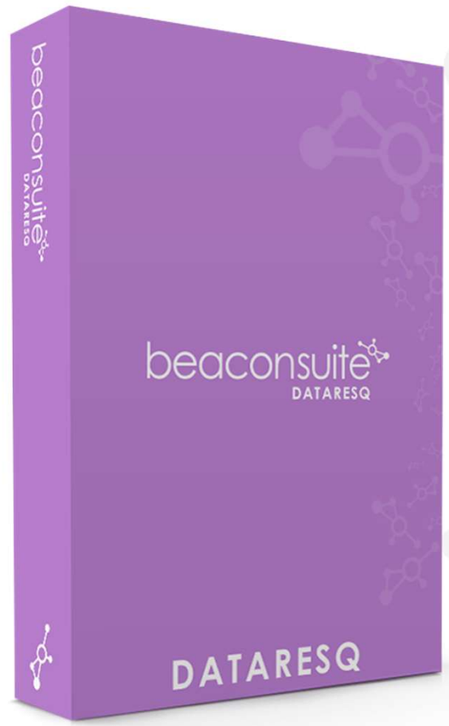
DATARESQ

Features

- Identifies table structural differences
- Identifies table row count differences, row differences, and data differences on each row
- User configured synonyms enables only relevant differences to be reported
- Findings are easily exported to Excel files
- Compares two databases; compares combinations of Oracle, MS SQL Server, MS Excel
- Able to create a database snapshots for future comparisons



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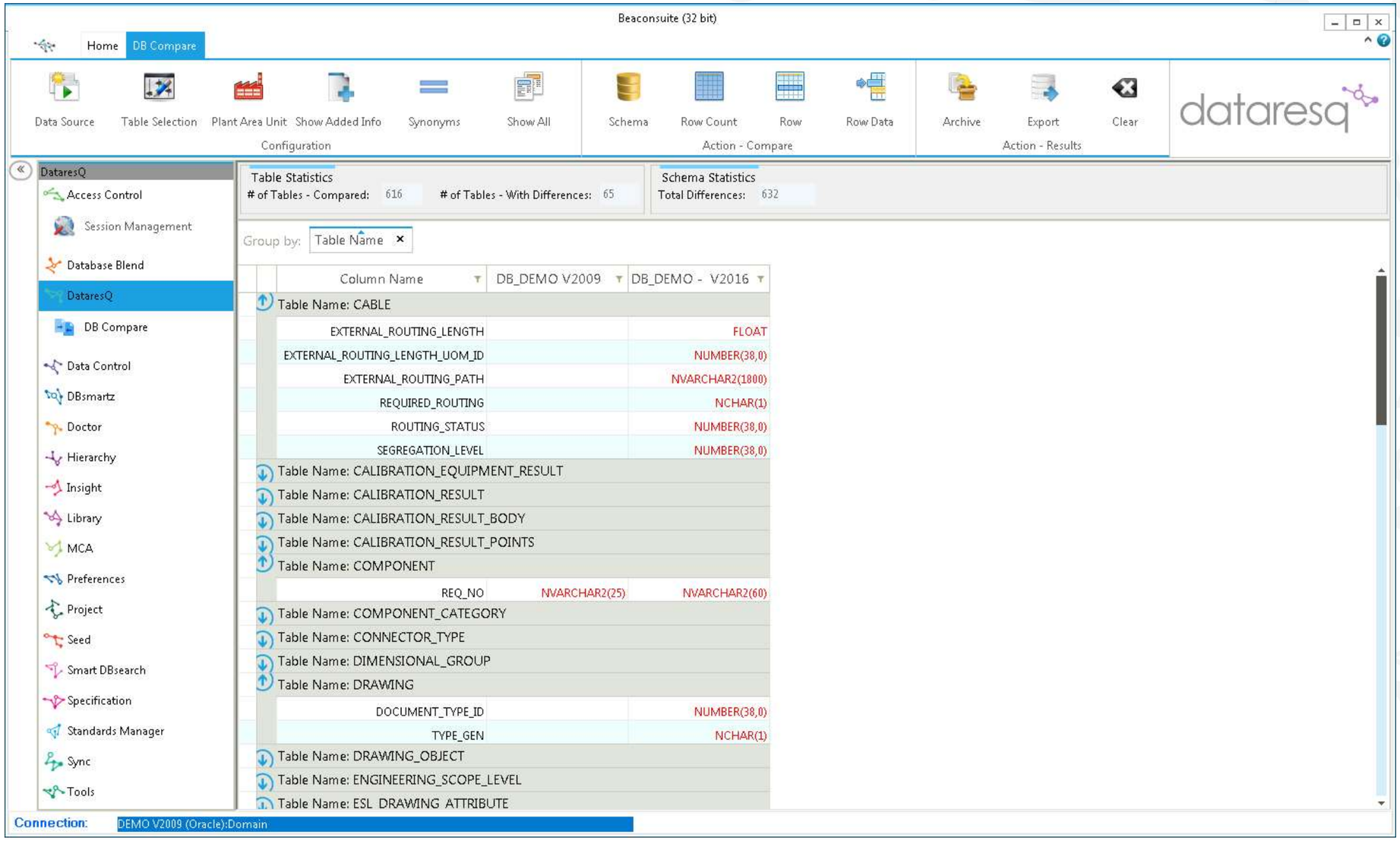
DATARESQ –DB Compare-> Table Structure & Record Analysis Pre & Post Upgrade

- Identifies if the client database structure aligns with Hexagon expectations

A customized table structure will likely impact the upgrade process.



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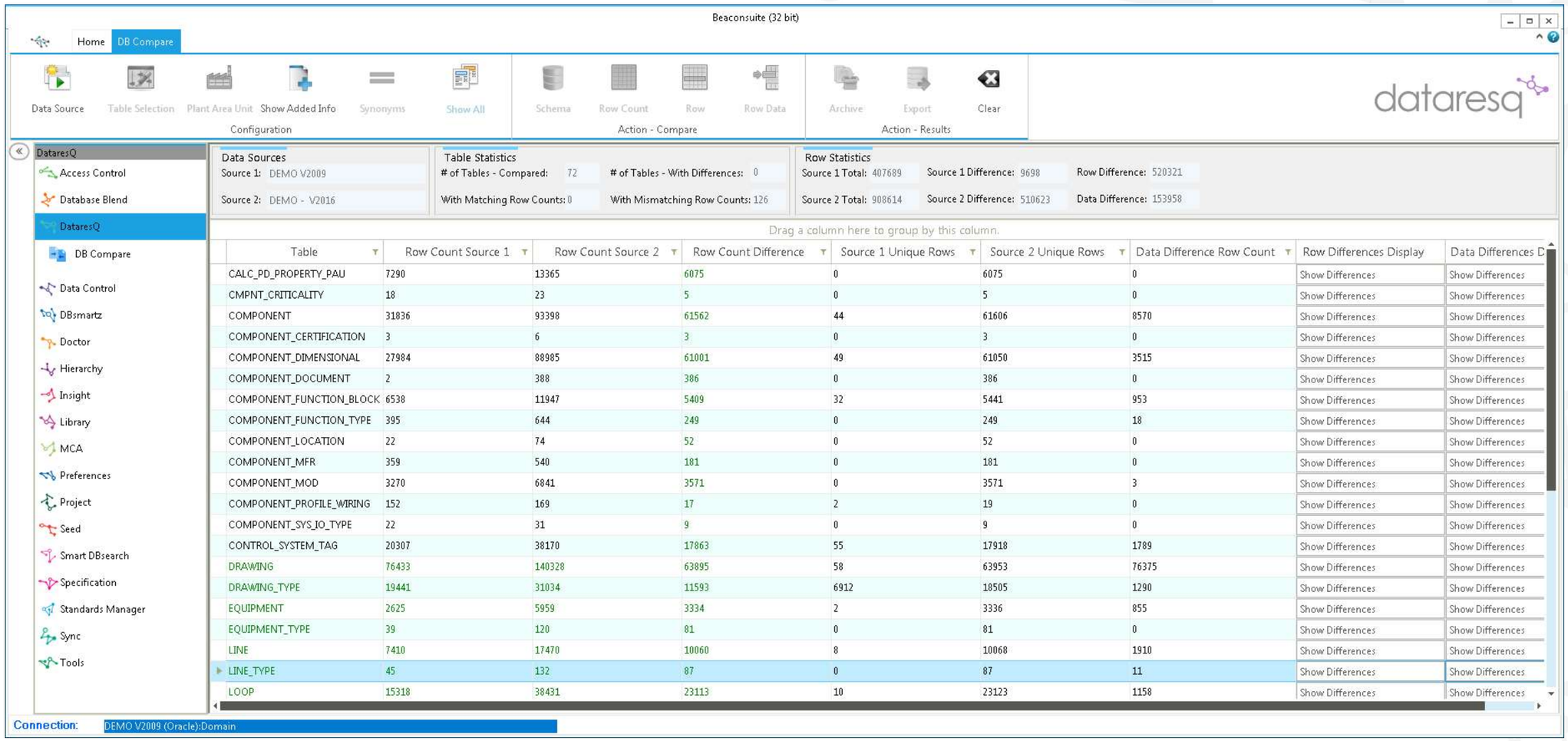
DATARESQ –DB Compare-> Table Structure & Record Analysis Pre & Post Upgrade

- Identifies records differences between pre and post upgrade activities

Addresses concerns about what has changed due to the upgrade!



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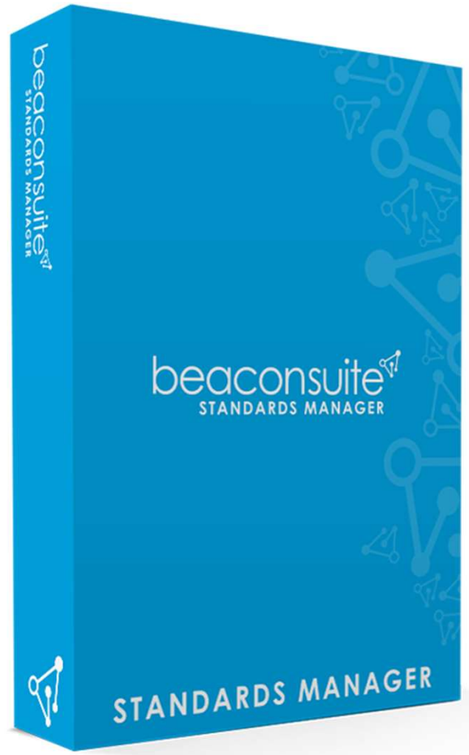
CONFIGURATION/STANDARD AUDIT

COMPARE DOMAIN STANDARDS

COOLEYCORE'S BEACONSUITE™ STANDARDS MANAGER SOFTWARE

- Rapidly assesses the alignment of standards across two different databases; without this application, it would take many more hours to do the same assessment
- Application to be used to determine the required effort in order to merge (blend) different SPI databases
- Non-conformances between the two databases can be reviewed and approved (if required)
- Assess high priority separate from low priority standards



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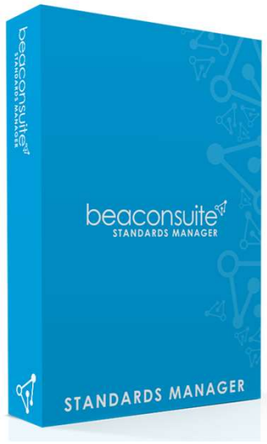
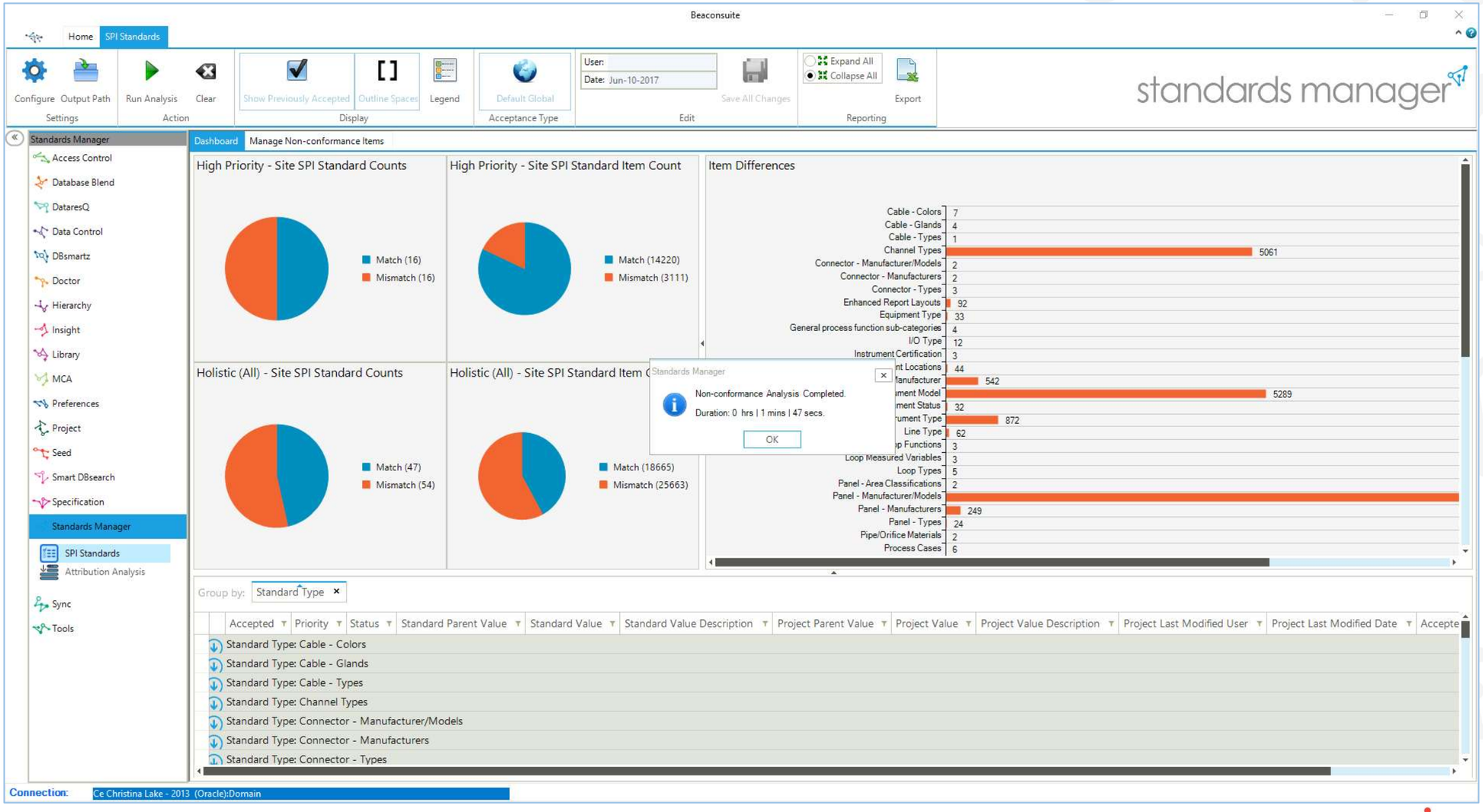
INNOVATIVE APPROACH TO MANAGING STANDARDS



COOLEYCORE'S BEACONSUITE STANDARDS MANAGER

- Assesses alignment of ~101 standards
- Reports all differences
- Mechanism to approve non conformances
- Compares any two databases
- View Only re: SPI database



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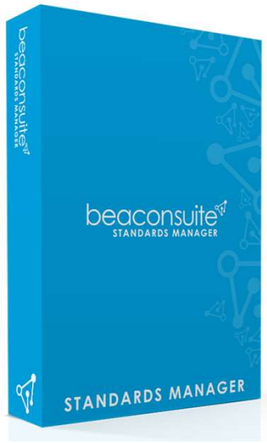
INNOVATIVE APPROACH TO MANAGING STANDARDS



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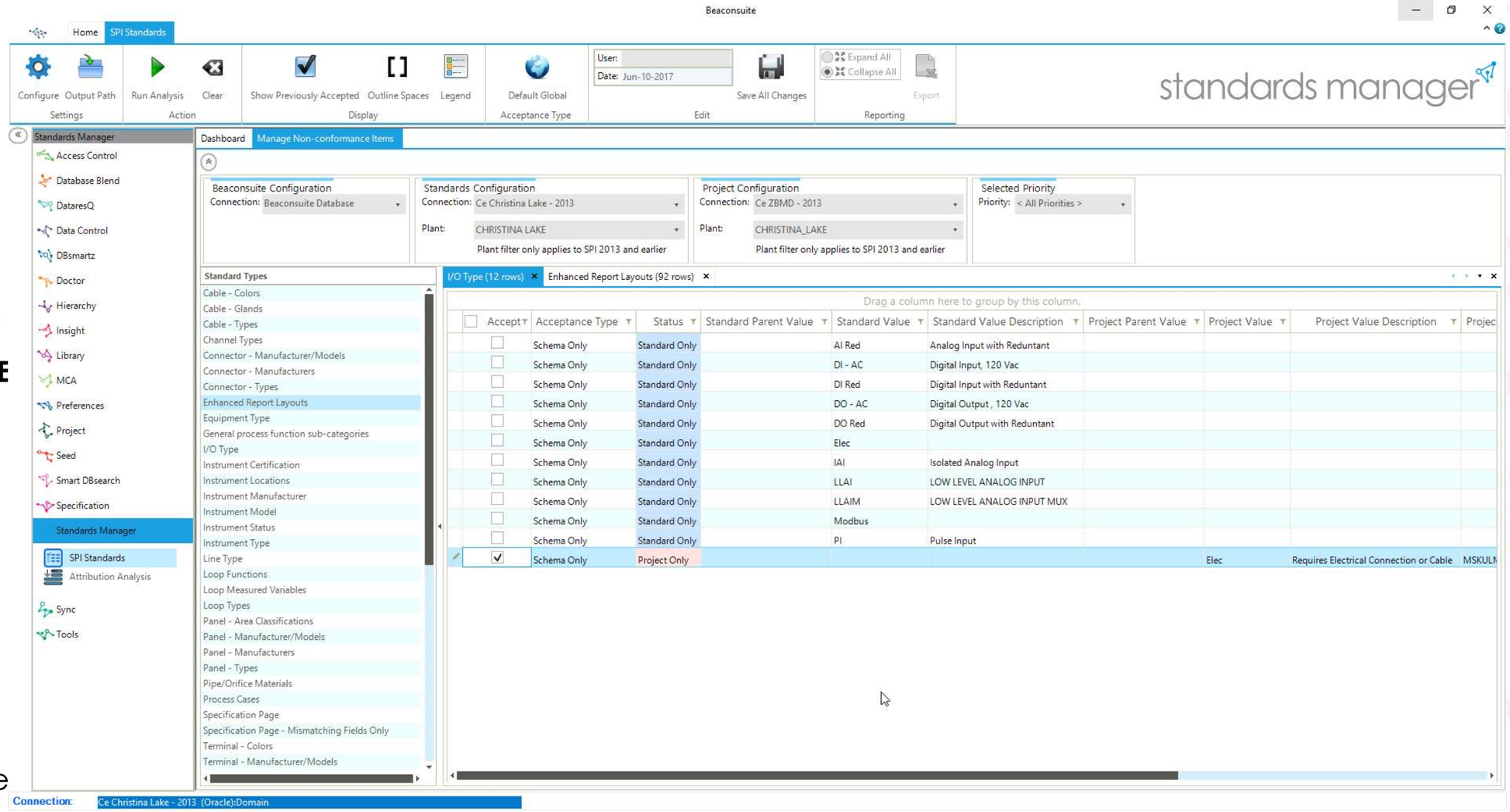

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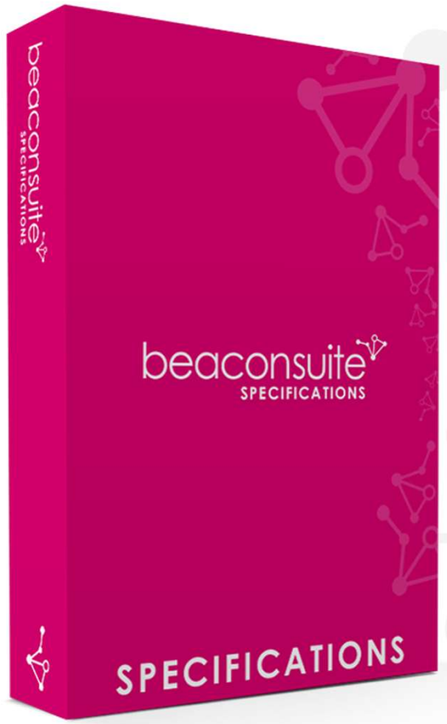
SPECIFICATIONS

Features

- Compares Instrument Specification Forms in use across two different SPI domains / databases
- Compares and aligns Instrument Specification Form Data Dictionary (field mappings) across two different SPI domains
- Safely migrates data between SPI data fields, warning if the targeted field already has data or is incompatible



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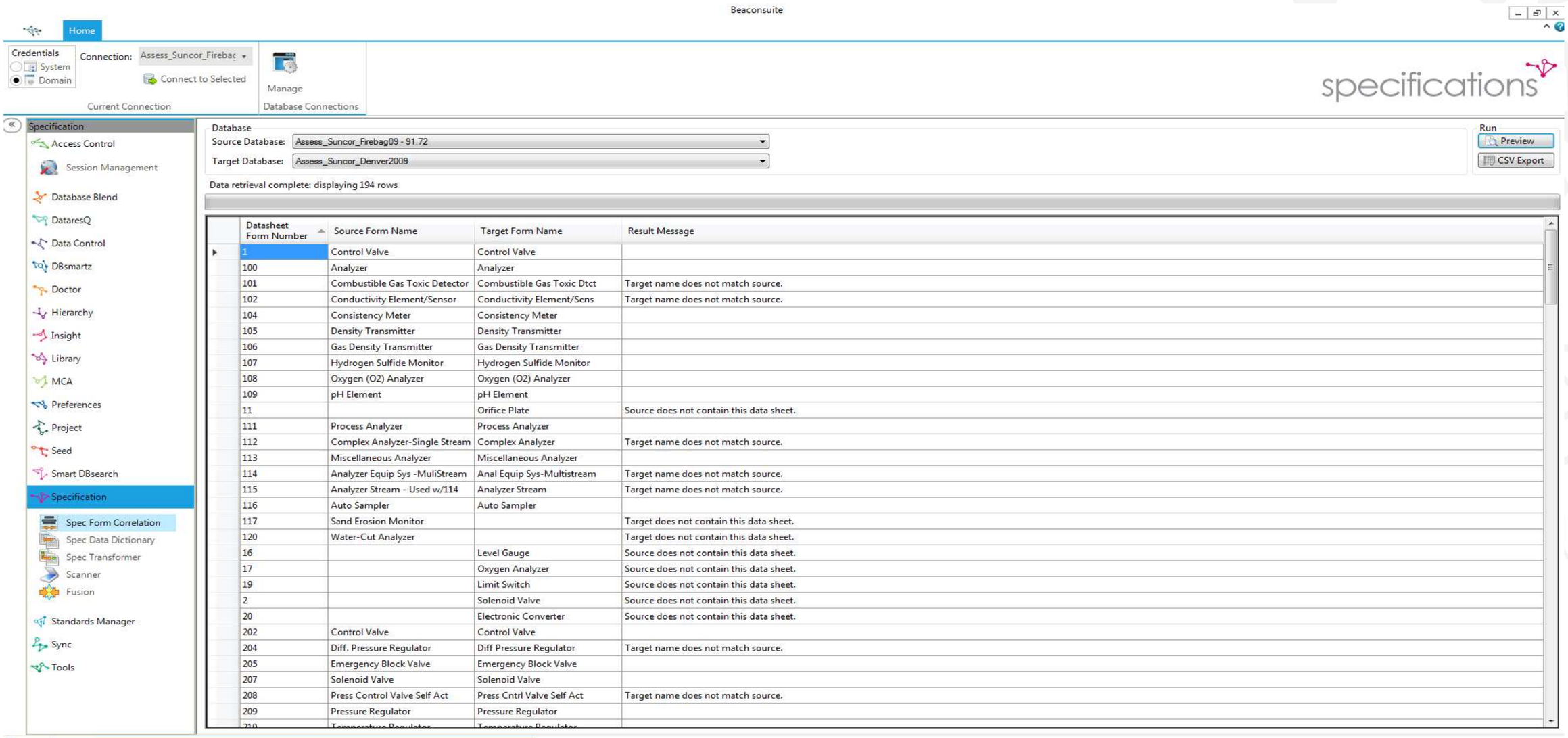
SPECIFICATIONS – FORM CORRELATION BWT DATABASES



Datasheet Form Number	Source Form Name	Target Form Name	Result Message
1	Control Valve	Control Valve	
100	Analyzer	Analyzer	
101	Combustible Gas Toxic Detector	Combustible Gas Toxic Dtct	Target name does not match source.
102	Conductivity Element/Sensor	Conductivity Element/Sens	Target name does not match source.
104	Consistency Meter	Consistency Meter	
105	Density Transmitter	Density Transmitter	
106	Gas Density Transmitter	Gas Density Transmitter	
107	Hydrogen Sulfide Monitor	Hydrogen Sulfide Monitor	
108	Oxygen (O2) Analyzer	Oxygen (O2) Analyzer	
109	pH Element	pH Element	
11		Orifice Plate	Source does not contain this data sheet.
111	Process Analyzer	Process Analyzer	
112	Complex Analyzer-Single Stream	Complex Analyzer	Target name does not match source.
113	Miscellaneous Analyzer	Miscellaneous Analyzer	
114	Analyzer Equip Sys -MuliStream	Anal Equip Sys-Multistream	Target name does not match source.
115	Analyzer Stream - Used w/114	Analyzer Stream	Target name does not match source.
116	Auto Sampler	Auto Sampler	
117	Sand Erosion Monitor		Target does not contain this data sheet.
120	Water-Cut Analyzer		Target does not contain this data sheet.
16		Level Gauge	Source does not contain this data sheet.
17		Oxygen Analyzer	Source does not contain this data sheet.
19		Limit Switch	Source does not contain this data sheet.
2		Solenoid Valve	Source does not contain this data sheet.
20		Electronic Converter	Source does not contain this data sheet.
202	Control Valve	Control Valve	
204	Diff. Pressure Regulator	Diff Pressure Regulator	Target name does not match source.
205	Emergency Block Valve	Emergency Block Valve	
207	Solenoid Valve	Solenoid Valve	
208	Press Control Valve Self Act	Press Cntrl Valve Self Act	Target name does not match source.
209	Pressure Regulator	Pressure Regulator	

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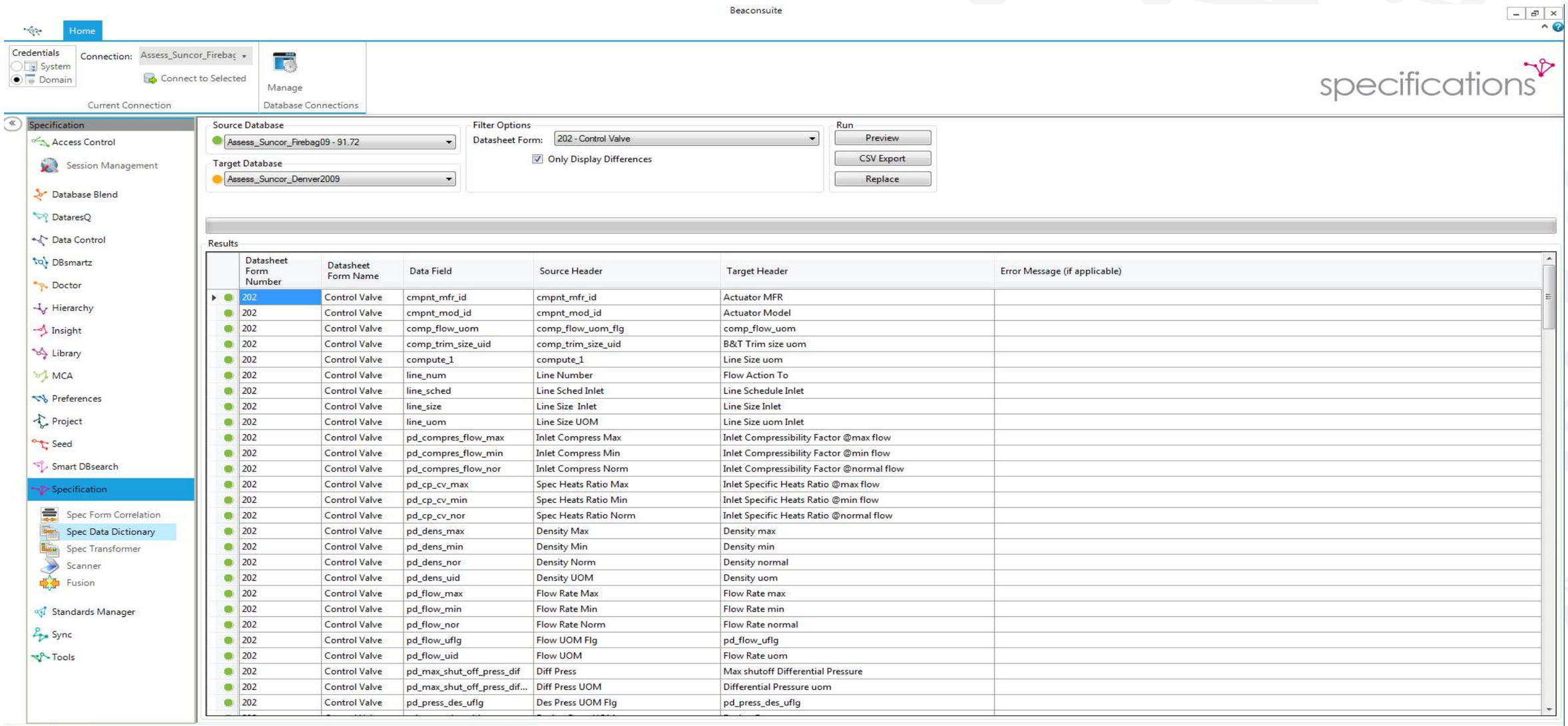
SPECIFICATIONS – DATA DICTIONARY ALIGNMENT



Datasheet Form Number	Datasheet Form Name	Data Field	Source Header	Target Header	Error Message (if applicable)
202	Control Valve	cmpnt_mfr_id	cmpnt_mfr_id	Actuator MFR	
202	Control Valve	cmpnt_mod_id	cmpnt_mod_id	Actuator Model	
202	Control Valve	comp_flow_uom	comp_flow_uom_flg	comp_flow_uom	
202	Control Valve	comp_trim_size_uid	comp_trim_size_uid	B&T Trim size uom	
202	Control Valve	compute_1	compute_1	Line Size uom	
202	Control Valve	line_num	Line Number	Flow Action To	
202	Control Valve	line_sched	Line Sched Inlet	Line Schedule Inlet	
202	Control Valve	line_size	Line Size Inlet	Line Size Inlet	
202	Control Valve	line_uom	Line Size UOM	Line Size uom Inlet	
202	Control Valve	pd_compres_flow_max	Inlet Compress Max	Inlet Compressibility Factor @max flow	
202	Control Valve	pd_compres_flow_min	Inlet Compress Min	Inlet Compressibility Factor @min flow	
202	Control Valve	pd_compres_flow_nor	Inlet Compress Norm	Inlet Compressibility Factor @normal flow	
202	Control Valve	pd_cp_cv_max	Spec Heats Ratio Max	Inlet Specific Heats Ratio @max flow	
202	Control Valve	pd_cp_cv_min	Spec Heats Ratio Min	Inlet Specific Heats Ratio @min flow	
202	Control Valve	pd_cp_cv_nor	Spec Heats Ratio Norm	Inlet Specific Heats Ratio @normal flow	
202	Control Valve	pd_dens_max	Density Max	Density max	
202	Control Valve	pd_dens_min	Density Min	Density min	
202	Control Valve	pd_dens_nor	Density Norm	Density normal	
202	Control Valve	pd_dens_uid	Density UOM	Density uom	
202	Control Valve	pd_flow_max	Flow Rate Max	Flow Rate max	
202	Control Valve	pd_flow_min	Flow Rate Min	Flow Rate min	
202	Control Valve	pd_flow_nor	Flow Rate Norm	Flow Rate normal	
202	Control Valve	pd_flow_uflg	Flow UOM Flg	pd_flow_uflg	
202	Control Valve	pd_flow_uid	Flow UOM	Flow Rate uom	
202	Control Valve	pd_max_shut_off_press_dif	Diff Press	Max shutoff Differential Pressure	
202	Control Valve	pd_max_shut_off_press_dif...	Diff Press UOM	Differential Pressure uom	
202	Control Valve	pd_press_des_uflg	Des Press UOM Flg	pd_press_des_uflg	

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QUESTIONS?

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