Innovative New Uses of PPDM as a Master Data Store Solution

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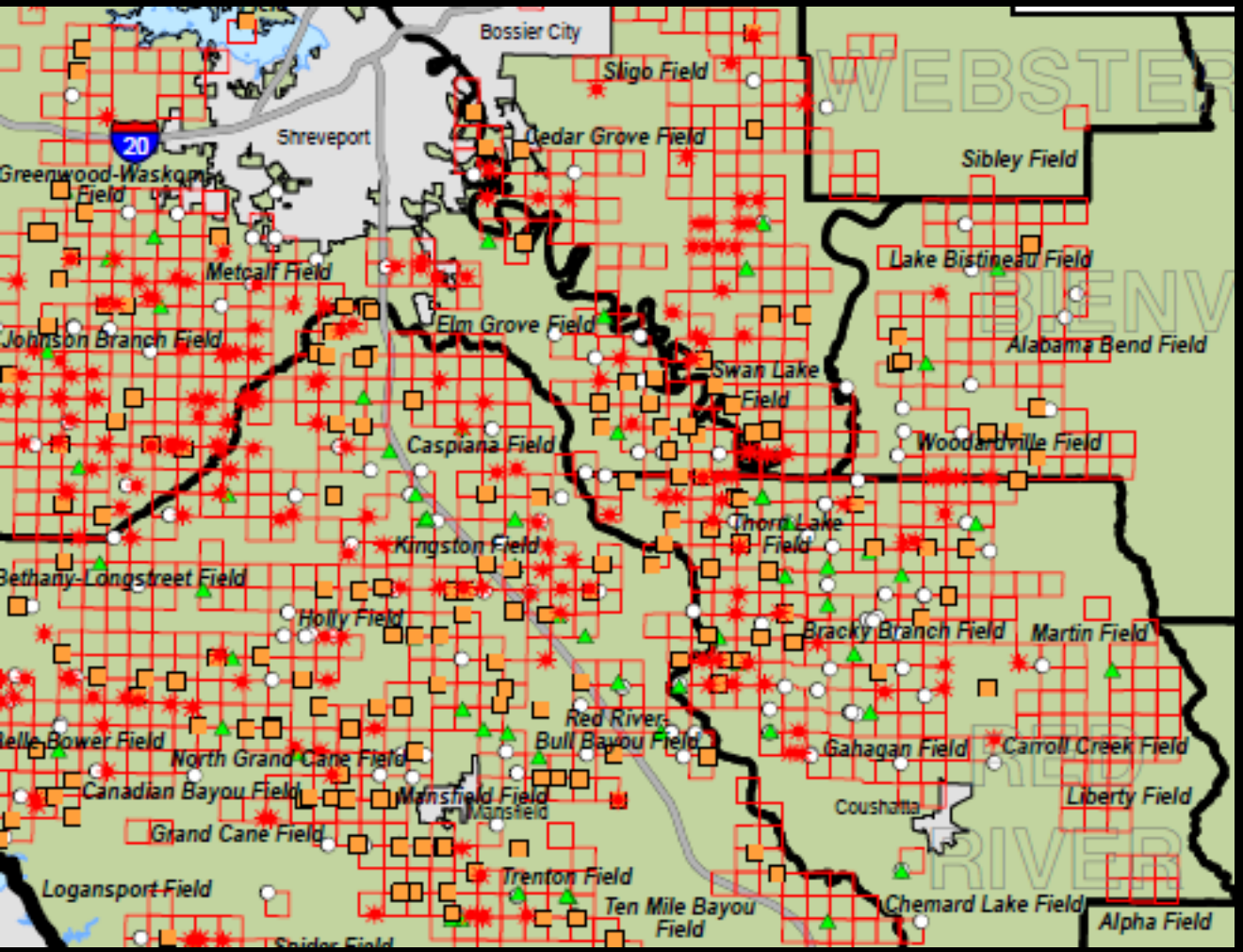
Business Driver #1: Intense Well Operations

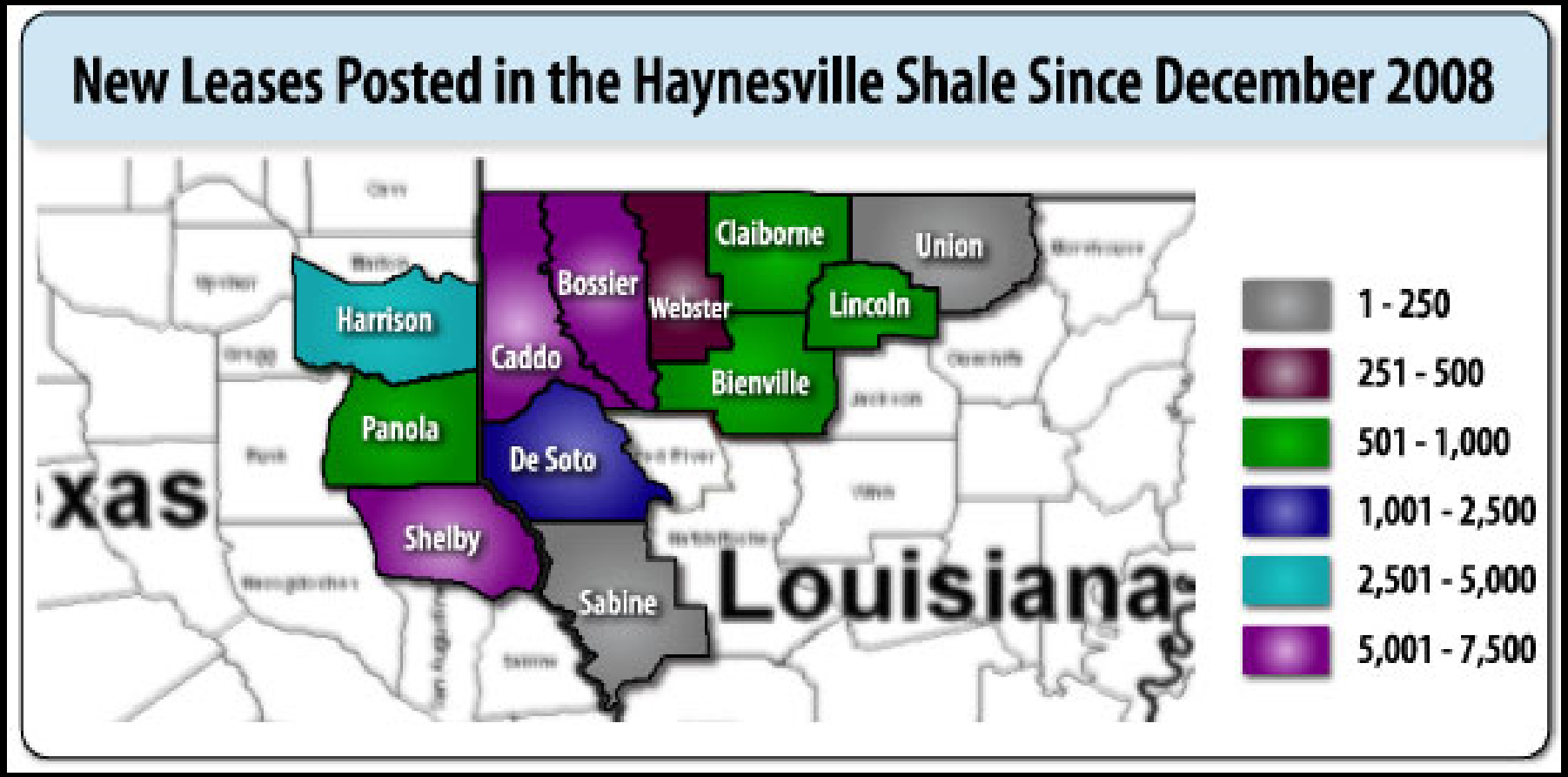


696 Active Haynesville Wells in Louisiana

Business Driver #2: Data Volume Explosion

LWD and MicroSeismic, WITSML

Business Driver #3: New Data Types

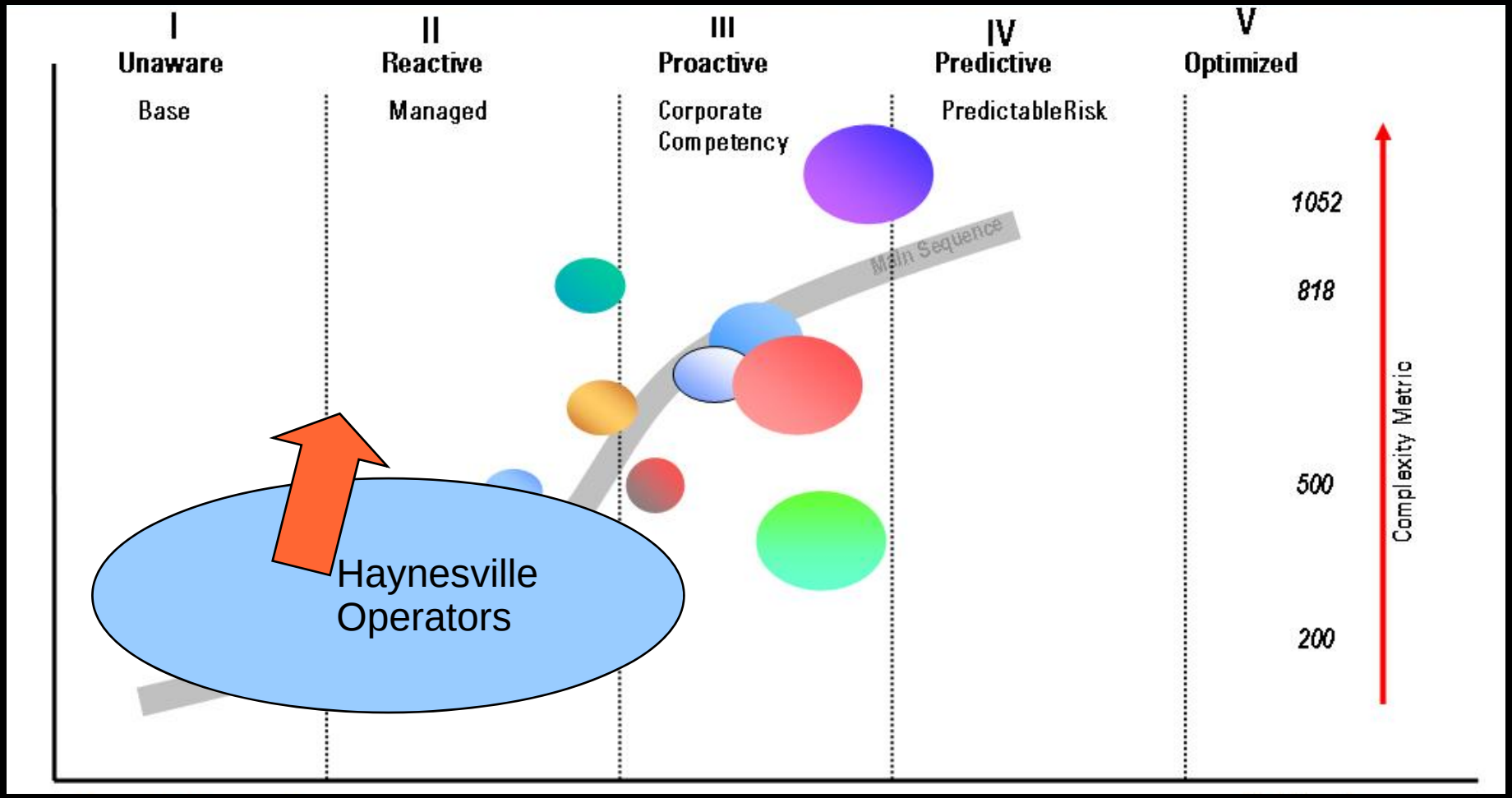


Lease, GIS, Driller, and Contract Data Types

Data Landscape: Impact of the Haynesville

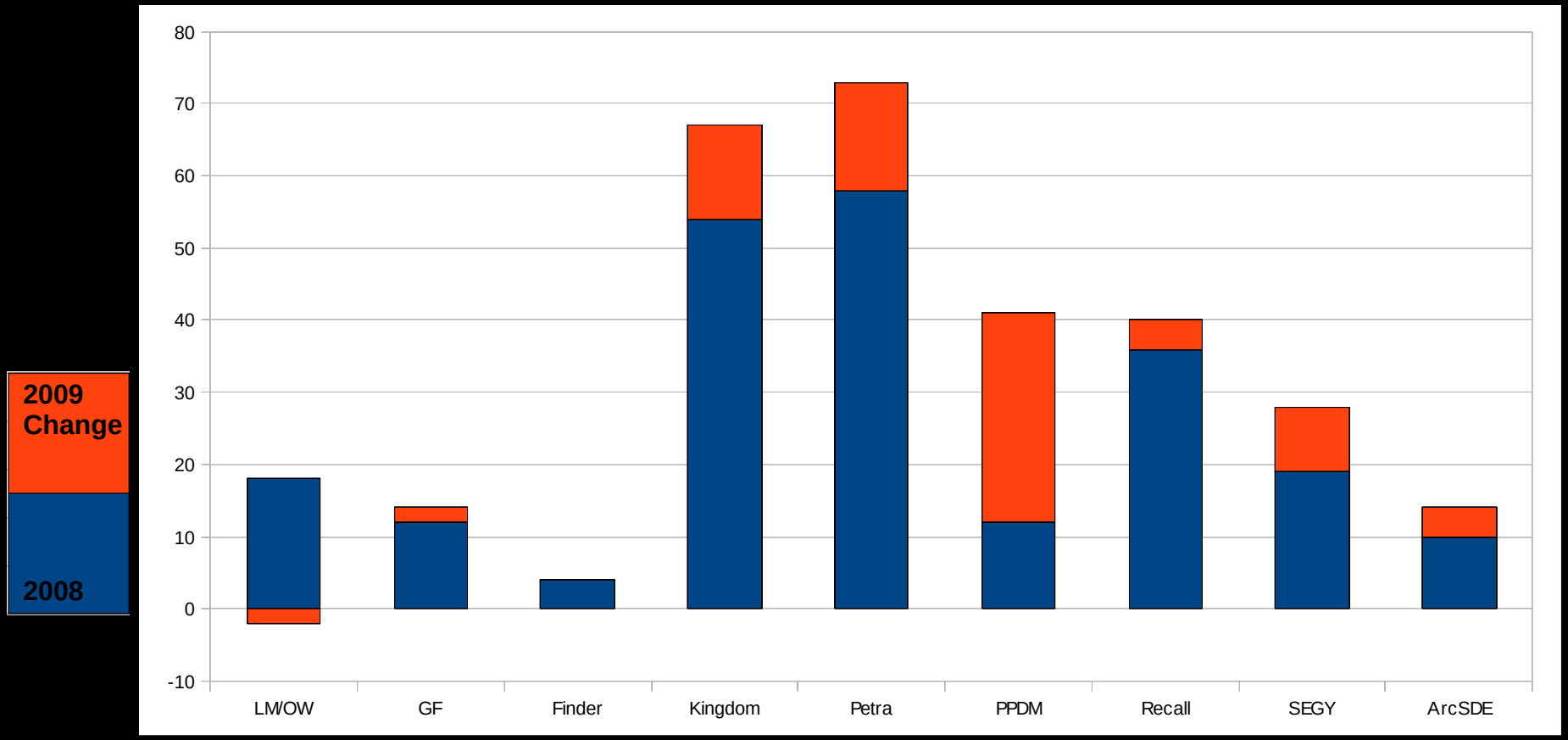
Top 30 Lease Operators in the Haynesville as of Nov 2009, Relative Data Volumes, Complexity Metric, and Data Management Maturity Level

Data Management Maturity



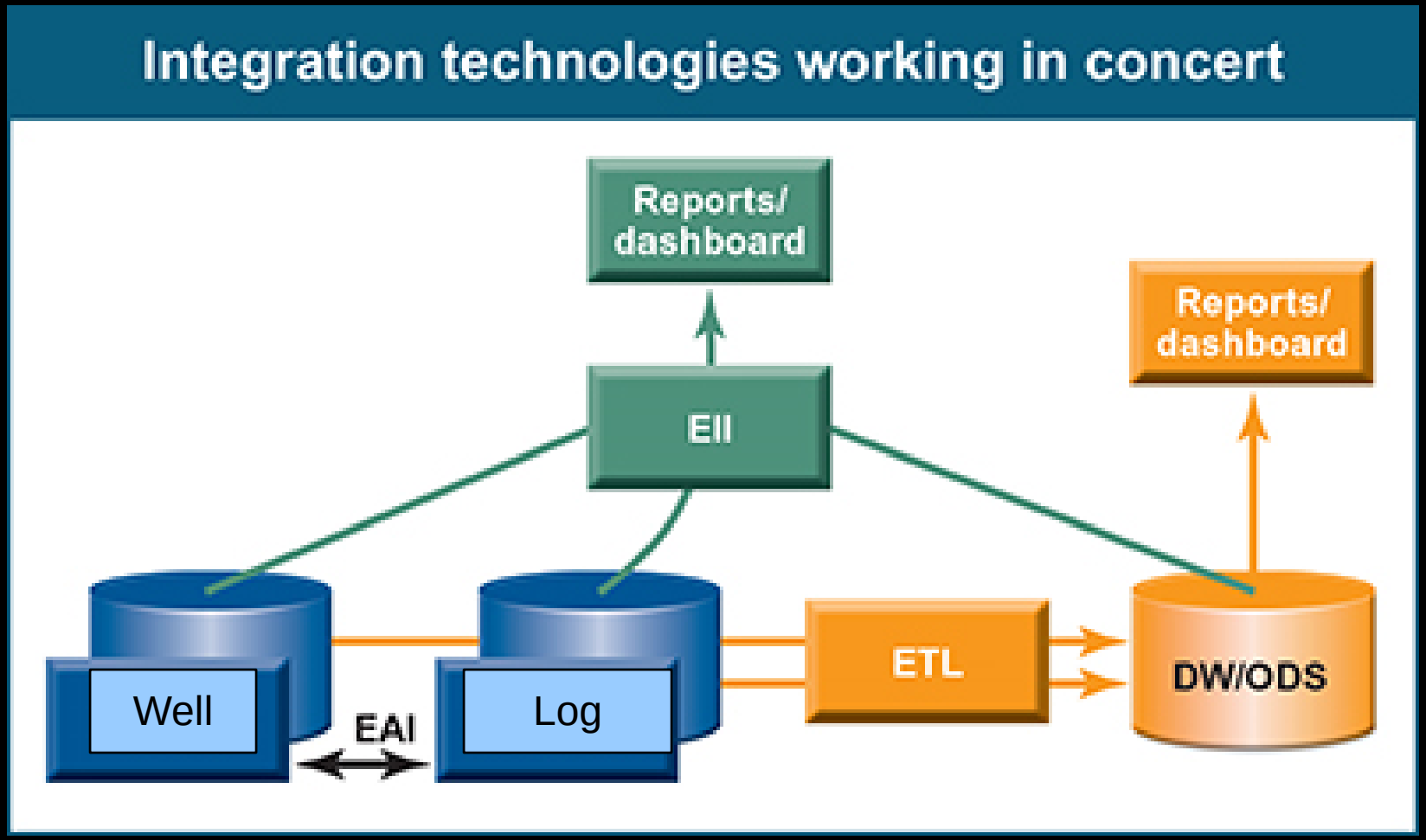
Relative position and movement on the "Main Sequence" of Haynesville operators compared to NOC, Super-Majors, and Large Independents

Data Management Maturity



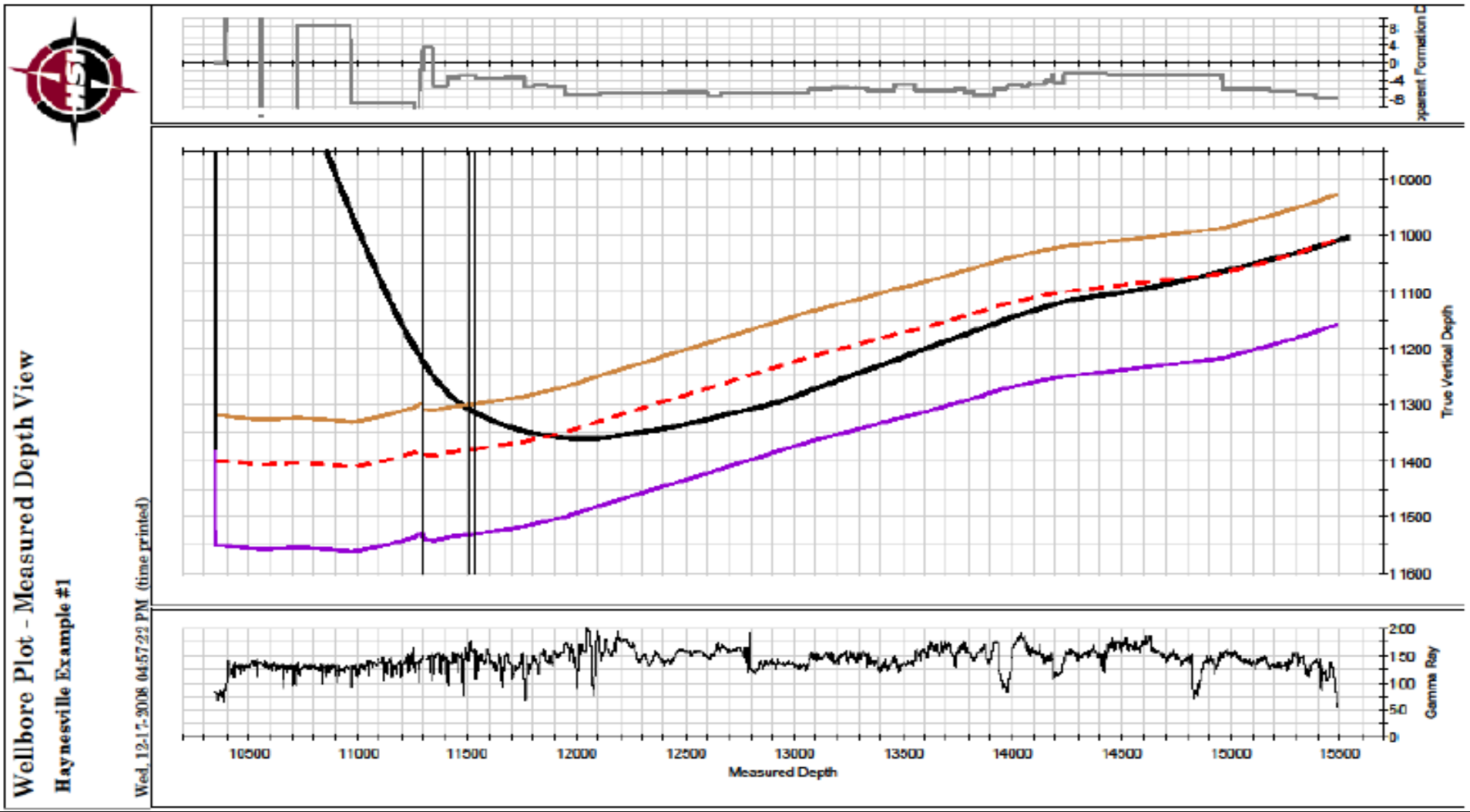
Percentage license penetration for software with OpenSpirit data store connectors in Haynesville operators

Master Data vs. Federated Data



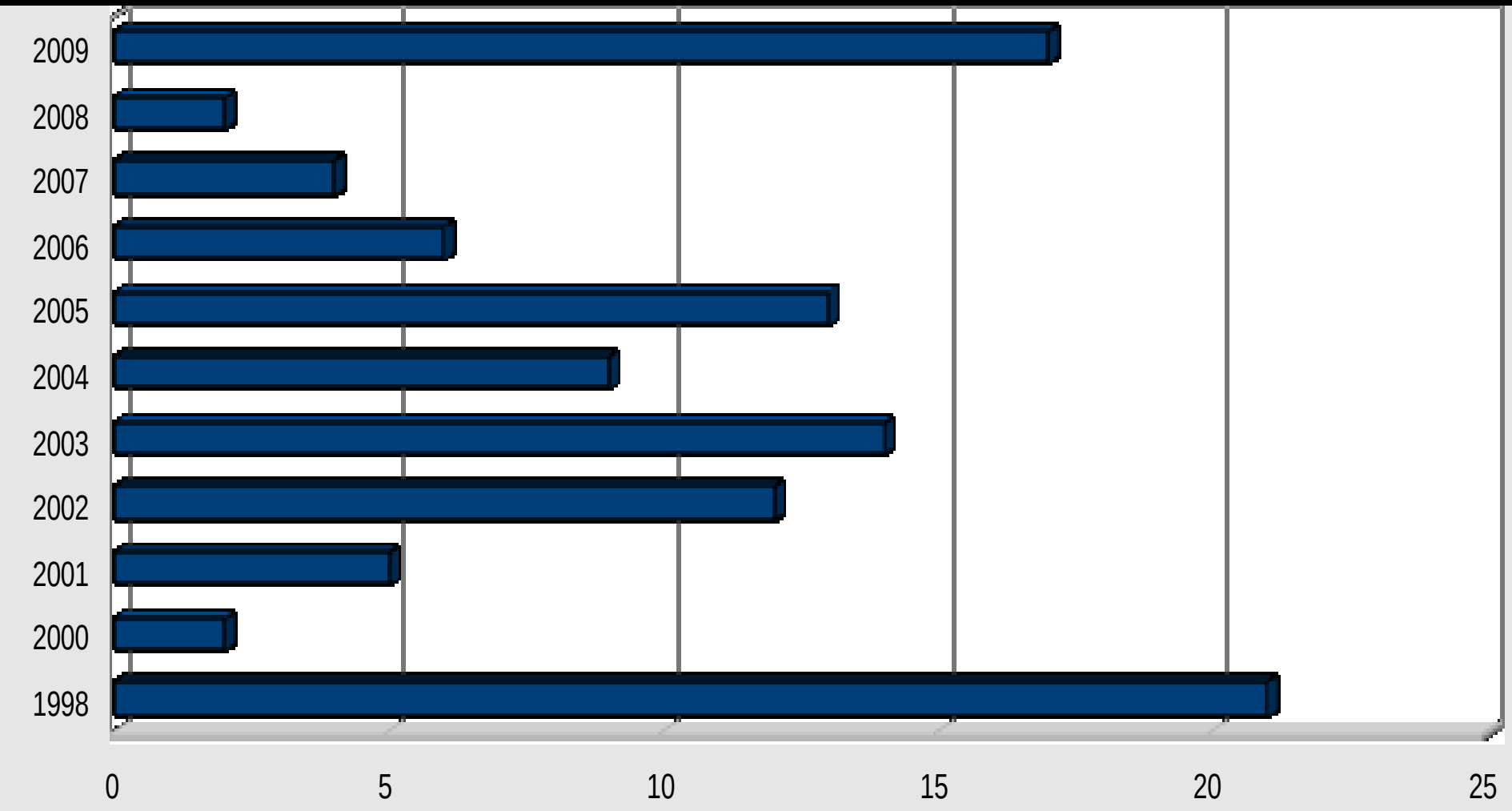
Enterprise Application vs. Informtion Integration

PPDM as a back-end repository



Log Correlation tool for long-reach horizontal wells requiring a relational database back end to interface to Petra

PPDM Resurgence



References to PPDM in PNEC Annual Conference Write-Ups (OilIT Journal Tech Watch)

OpenSpirit PPDM Data Footprint

OpenSpirit Data Connector Matrix

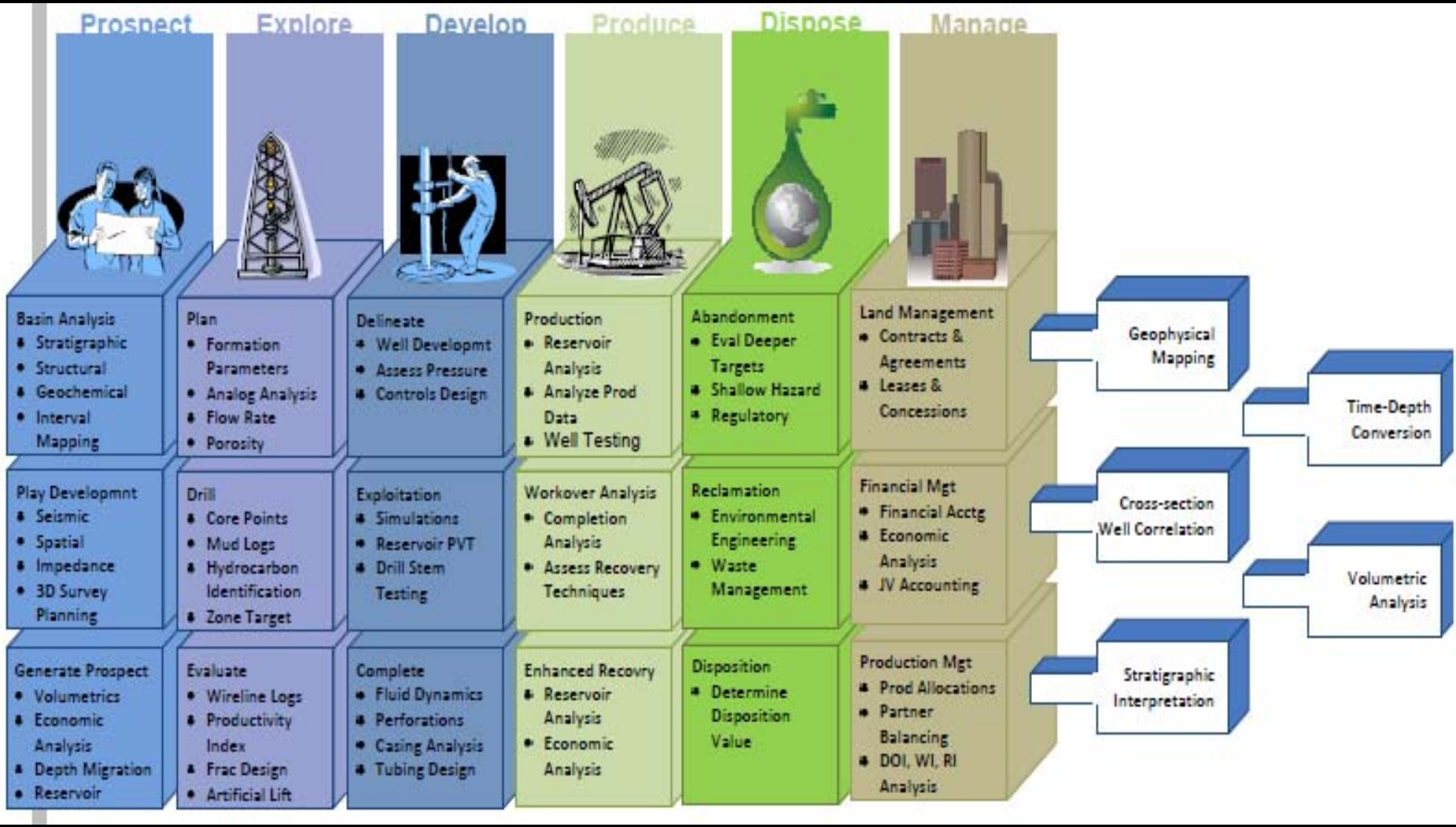
OpenSpirit 3.1.5	OpenWorks/ SeisWorks		GeoFrame/ IESX/ Charisma		Finder	Kingdom		Petra[1]	PPDM[3]	Recall			SEGY	ArcSDE
	S, L	S,L	S	S,L	S	W		W	S, L, W	S	L	S, L	S, L	S, L, W
	R2003.12	R5000.0.0.3	4.0.4.2	4.2, 4.3,4.4	9.2,9.3,9.5	8, 8.1	8.2,8.4	3.2.1,2,3,2.2.3	3.7	5.0	5.1	5.2		9.1,9.2
Well	rw	rw	rw	rw	rw	rw	rw	r	r	rw	rw	rw		
WellBore	rw	rw	rw	rw	rw	rw	rw	r	r	rw[1]	rw[1]	rw[1]		
WellBoreList	rw	rw	rw	rw	rw			r	r[2]	rw	rw	rw		
WellLogTrace	rw	rw	rw	rw	rw	rw	rw	r	r	rw	rw	rw		
WellPick	rw	rw	rw	rw	rw	rw	rw	r	r	r	r	r		
WellVelocity	rw	rw	rw	rw	rw	rw	rw							
WellAttributes										rw	rw	rw		
WellBoreAttributes										rw	rw	rw		
WellLogTraceAttributes										rw	rw	rw		
LoggingPass										rw	rw	rw		
Seismic 3D Survey	rw	rw	rw	rw		rw	rw						rw	
Seismic 3D Dataset	rw	rw	rw	rw		rw	rw						rw	
Seismic 2D Survey	rw	rw	rw	rw		rw	rw						rw	
Seismic 2D Line	rw	rw	rw	rw		rw	rw						rw	
Seismic 2D Dataset	rw	rw	rw	rw		rw	rw						rw	
Horizon Grid 2d (3D seismic)	rw	rw	rw	rw		rw	rw							
Horizon Grid 2d (non-seismic)	rw	rw	rw	rw		r	rw							
Horizon Fault Boundaries	rw	rw												
Horizon PointSet	r	r												
Horizon 2D (2D seismic)	rw	rw	rw	rw		rw	rw							
Fault Polyline Set (3D)	rw	rw	rw	rw		rw	rw							
Fault Polyline Set (2D)	rw	rw	rw	rw		rw	rw							
Fault PointSet	r	r												
Culture - Point Feature														r
Culture - Polyline Feature														r
Culture - Polygon Feature														r

Well headers, logs and picks

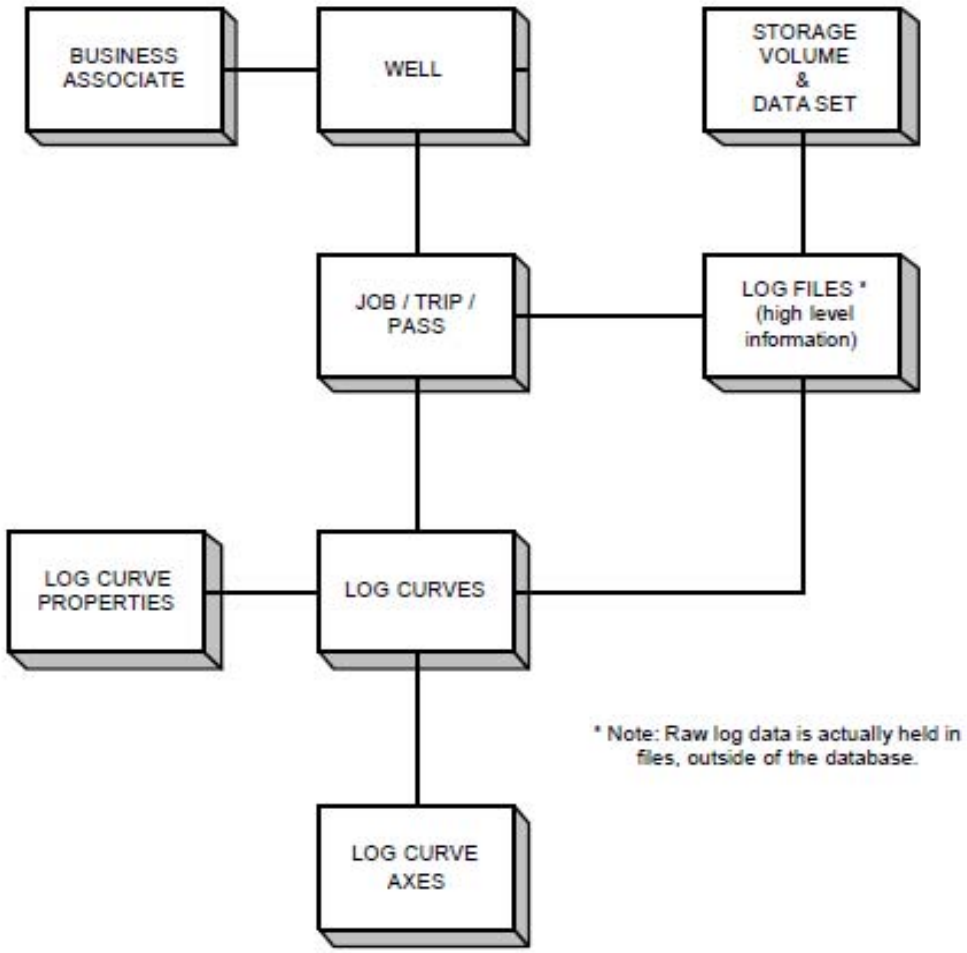
Write-back in PPDM 3.8

Native Model Available

Potential Footprint of PPDM



PPDM Data Structures



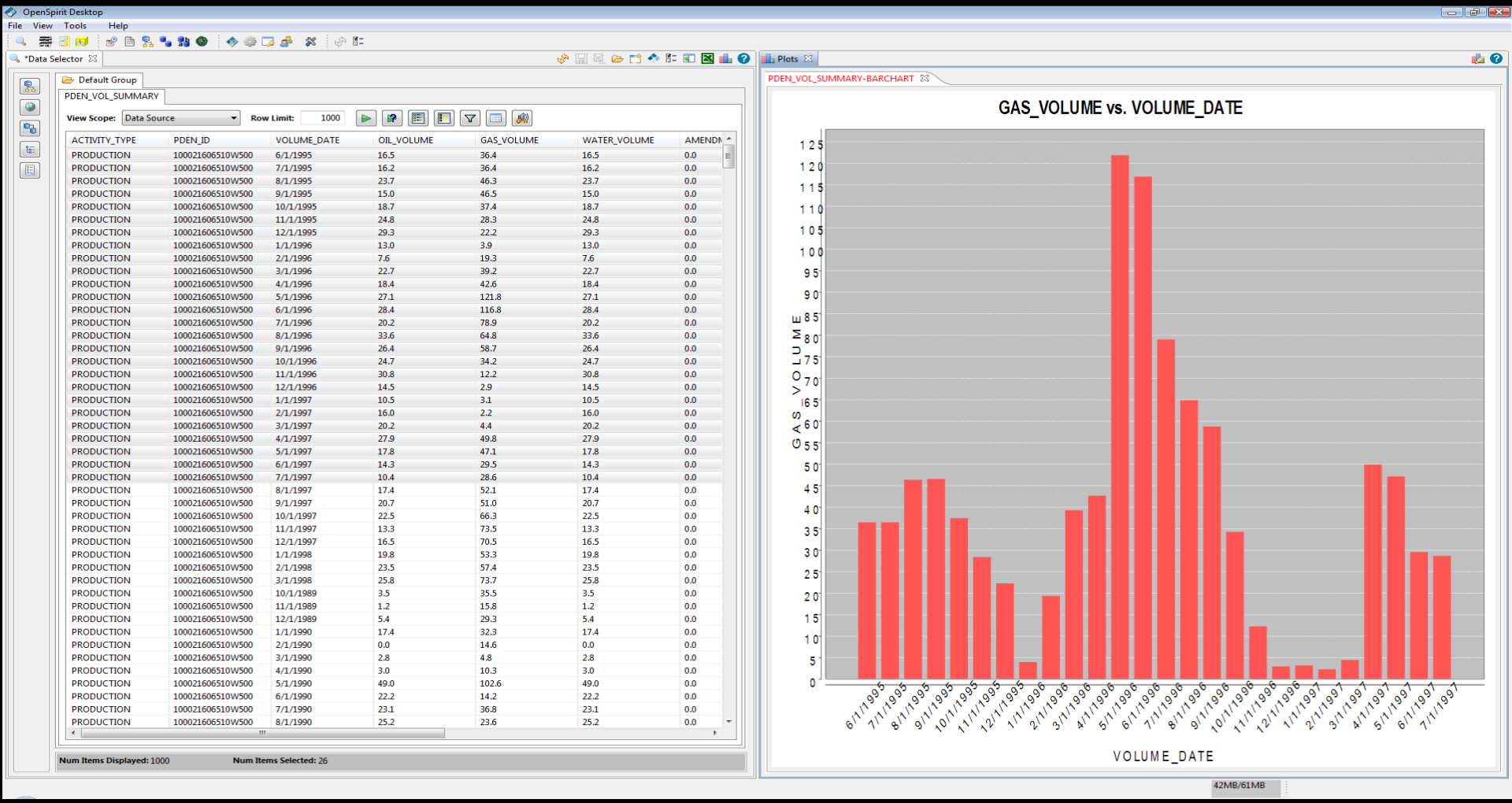
Example PPDM table structure required to load log data as external files

PPDM Data Structures

As many as 6 tables to load data elements from MMS public data files such as:

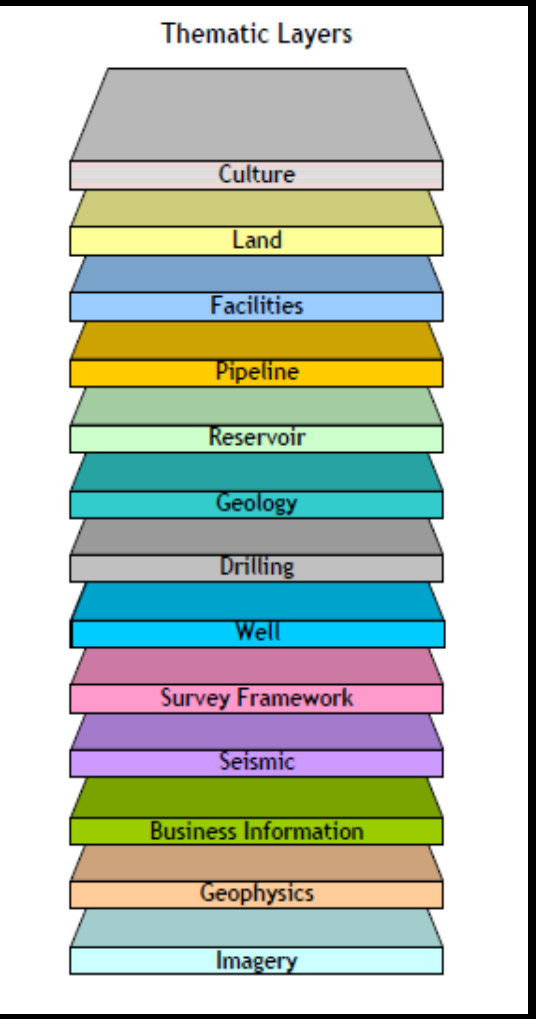
Platform locations
Producing sands
Paleo data

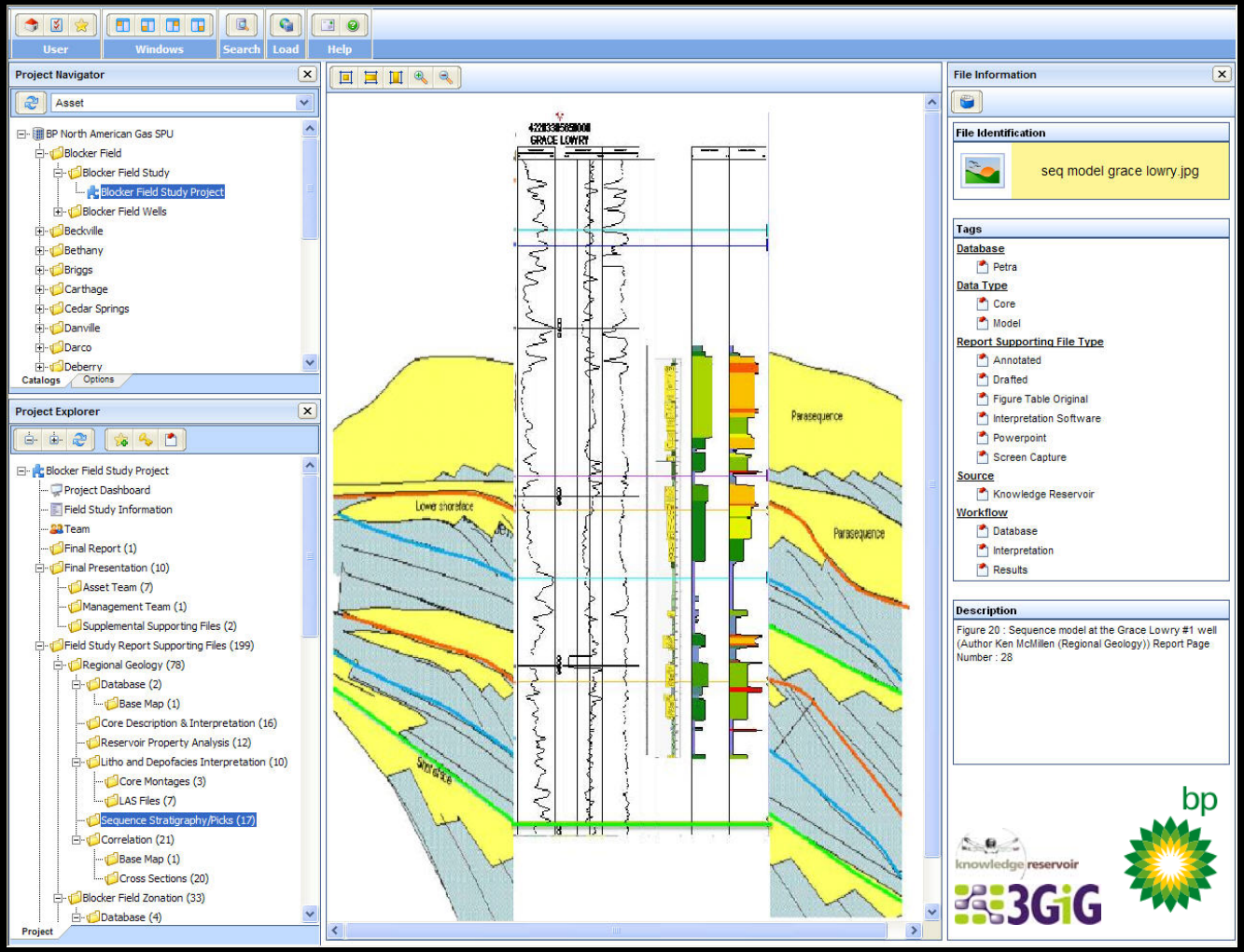
PPDM OpenSpirit Connector



OpenSpirit Native Data Model in Data Selector against Production Data in PPDM 3.7

Thematic Layers added to PPDM Spatial





Asset Workflow supported by PPDM data model at BP (Blocker Field Gas Unit)