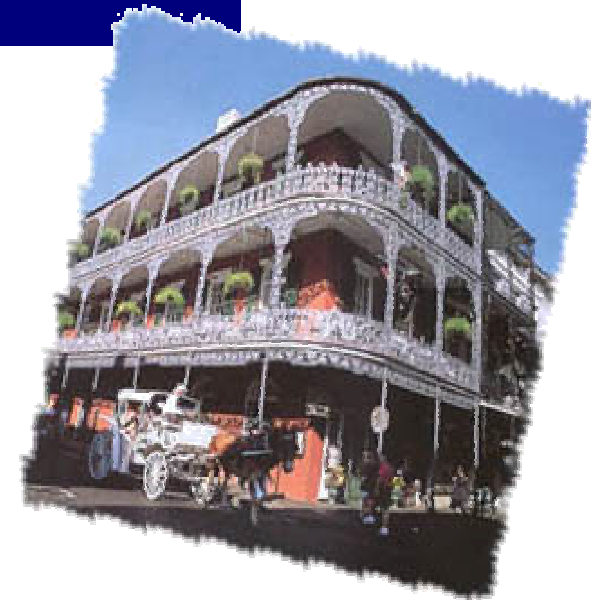


Michigan DMR Data Exchange With EPA

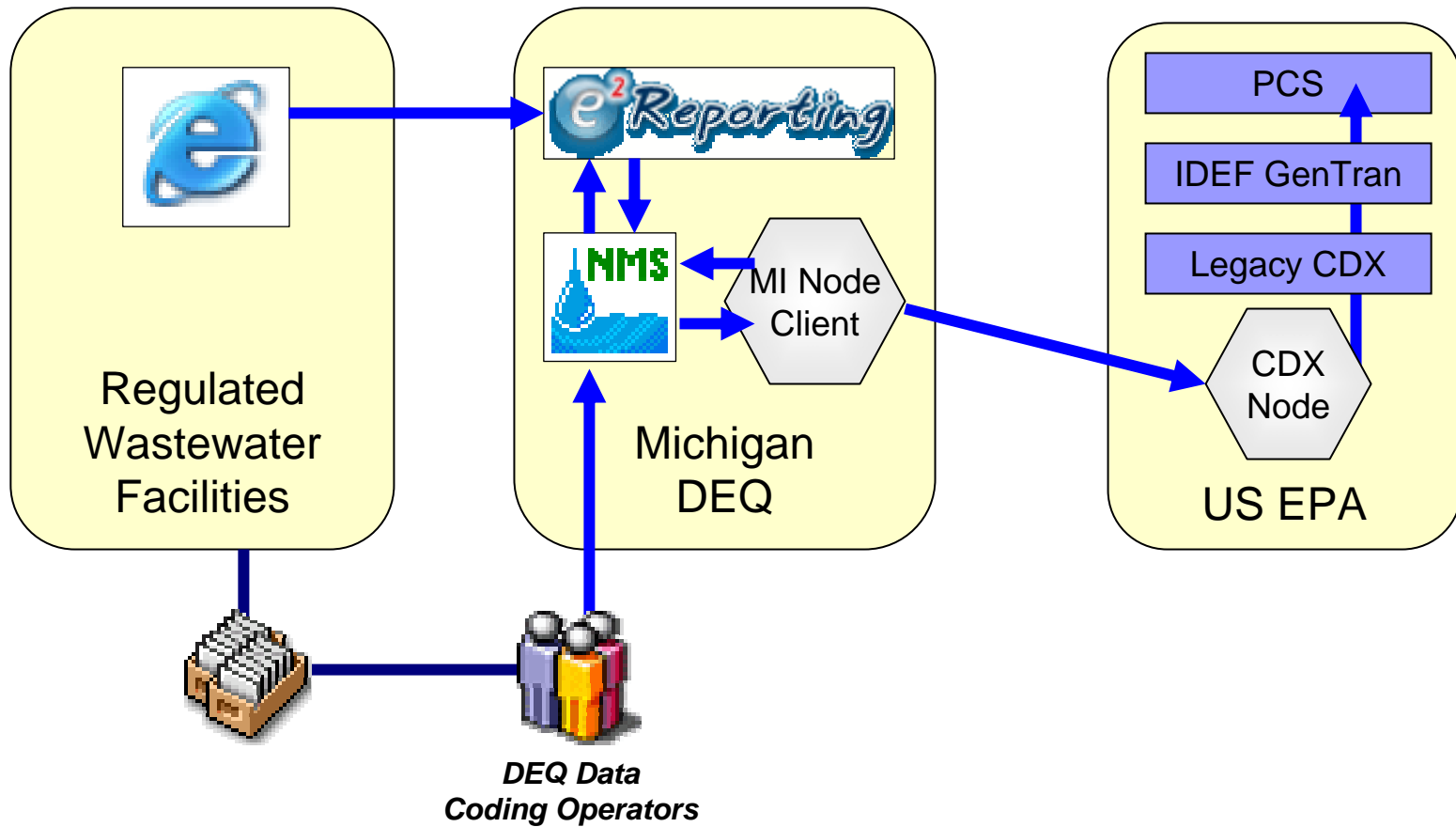
or "What I Node To Be True"

Bill Geake

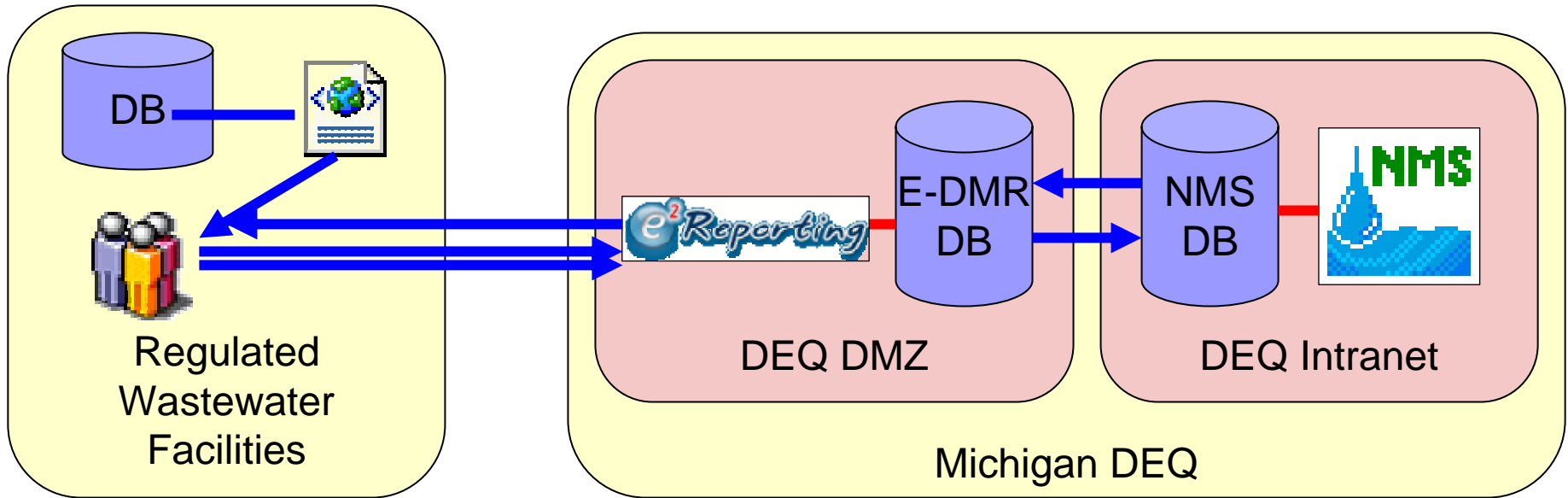
Michigan Department of
Information Technology



Overview of DMR Data Flow Process



Facility-to-State DMR Data Flow



Michigan Department of Environmental Quality Daily Discharge Monitoring Report (DMR)

MITTEE NAME: AAR Cadillac Mfg
 MAILING ADDRESS: 201 Haynes Street
 Cadillac, MI 49601
 FACILITY: AAR Cadillac Mfg
 LOCATION: 201 Haynes Street
 Cadillac, MI 49601

PERMIT NUMBER: *MI0002640*
 DISTRICT: Cadillac
 COUNTY: Wexford
 MONITORING POINT: 001A
 MONITORING PERIOD : 2004-01-01To: 2004-01-31

PARAMETER NAME	Flow	Total Residual Chlorine	Oil and Grease	Temperature (F)	Outfall Observation	pH	
PARAMETER CODE	50050	50060	00556	00011	84130	00400	
MONITORING PT.	001A	001A	001A	001A	001A	001A	
STAGE CODE	1	1	1	1	1	1	
UNIT	MGD	ug/l	mg/l	F	yes/no	S.U.	
2004-01-01							
2004-01-02							
2004-01-03							
2004-01-04							
2004-01-05							
2004-01-06							
2004-01-07							
2004-01-08							
2004-01-09							
2004-01-10							
2004-01-11							
2004-01-12							
2004-01-13							
2004-01-14							
2004-01-15							
2004-01-16							
2004-01-17							
2004-01-18							
2004-01-19							
2004-01-20							
2004-01-21							
2004-01-22							

Michigan Department of Environmental Quality Monthly Discharge Monitoring Report (DMR)

COMMITTEE NAME: AAR Cadillac Mfg
 MAILING ADDRESS: 201 Haynes Street
 Cadillac, MI 49601
 FACILITY: AAR Cadillac Mfg
 LOCATION: 201 Haynes Street
 Cadillac, MI 49601

PERMIT NUMBER: MI0002640
 MONITORING POINT: 001A

DISTRICT: Cadillac
 COUNTY: Wexford

Monitoring Period : 2004-02-01 To: 2004-02-28

NO DISCHARGE FROM SITE: ()

Parameter		Quantity or Loading		Units	Quality or Concentration			Units	No. Ex.	Frequency of Analysis	Sample Type
		Average	Maximum		Minimum	Average	Maximum				
RAM CODE: 50050 n. Site No.: 001A e Code: 1	Sample Measurement			MGD	*****	*****	*****	*****		Daily	Report Total Daily Flow
	Permit Requirement	(report) Maximum Monthly Average	(report) Maximum Daily		*****	*****	*****				
RAM CODE: 50060 n. Site No.: 001A e Code: 1	Sample Measurement	*****	*****	*****	*****	*****		ug/l		3X Weekly	Grab
	Permit Requirement	*****	*****		*****	*****	(report) Maximum Daily				
RAM CODE: 81328 n. Site No.: 001A e Code: 1	Sample Measurement	*****	*****	*****	*****	*****		ug/l		2X Annually	Grab
	Permit Requirement	*****	*****		*****	*****	(report) Maximum Daily				
RAM CODE: 00556 n. Site No.: 001A e Code: 1	Sample Measurement	*****	*****	*****	*****	*****		mg/l		Weekly	Grab
	Permit Requirement	*****	*****		*****	*****	10 Maximum Daily				
RAM CODE: 00011 n. Site No.: 001A e Code: 1	Sample Measurement	*****	*****	*****	*****	*****		F		3X Weekly	Measured
	Permit Requirement	*****	*****		*****	*****	90 Maximum Daily				
RAM CODE: 34475 n. Site No.: 001A e Code: 1	Sample Measurement	*****	*****	*****	*****	*****		ug/l		2X Annually	Grab
	Permit Requirement	*****	*****		*****	*****	(report) Maximum Daily				
RAM CODE: 39180 n. Site No.: 001A e Code: 1	Sample Measurement	*****	*****	*****	*****	*****		ug/l		2X Annually	Grab
	Permit Requirement	*****	*****		*****	*****	(report) Maximum Daily				

MONTHLY DISCHARGE MONITORING REPORT

Select Monitoring Point: **001A** ▼

Save Current Page

Save DMR

Clear All Data

PERMITTEE NAME: **AAR Cadillac Mfg**

PERMIT NUMBER: **MI0002640**

DISTRICT: Cadillac

MAILING ADDRESS: 201 Haynes Street
Cadillac, MI 49601

MONITORING POINT: 001A

COUNTY: Wexford

FACILITY: **AAR Cadillac Mfg**

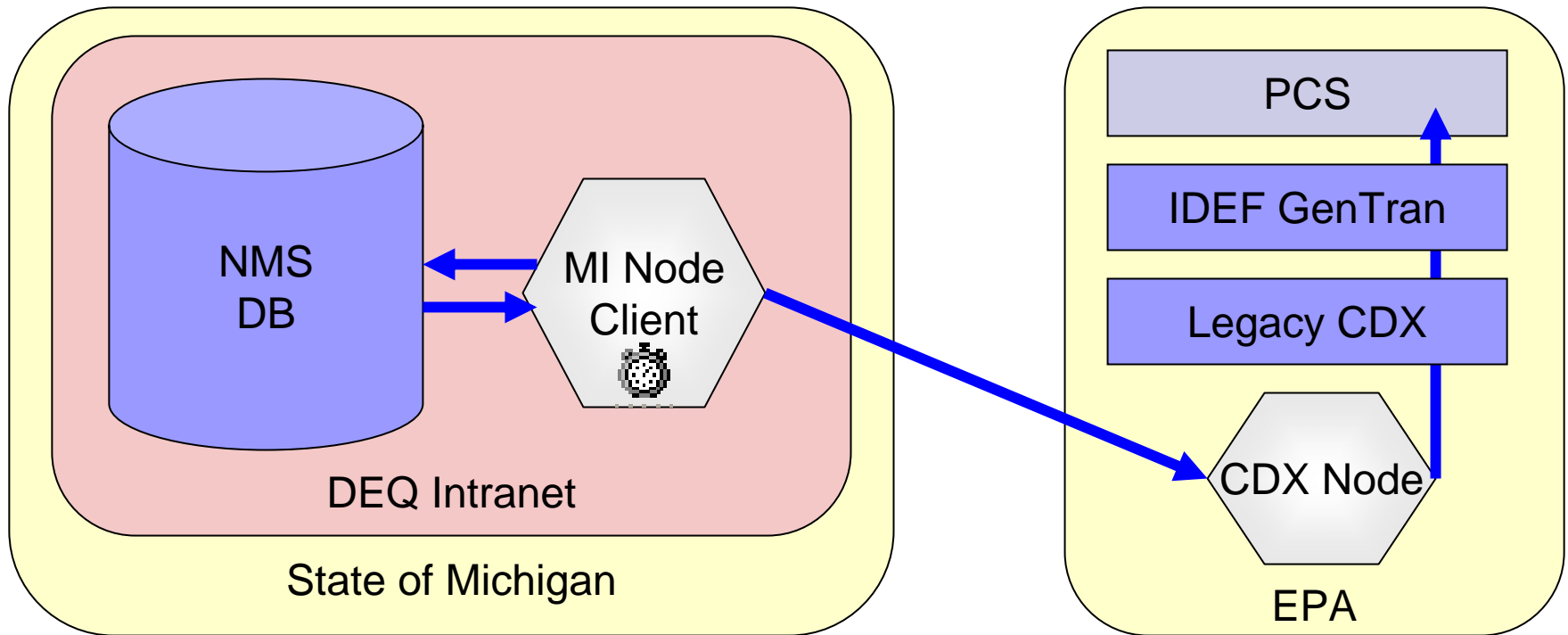
LOCATION: 201 Haynes Street
Cadillac, MI 49601

MONITORING PERIOD: 2004-01-01 To 2004-01-31

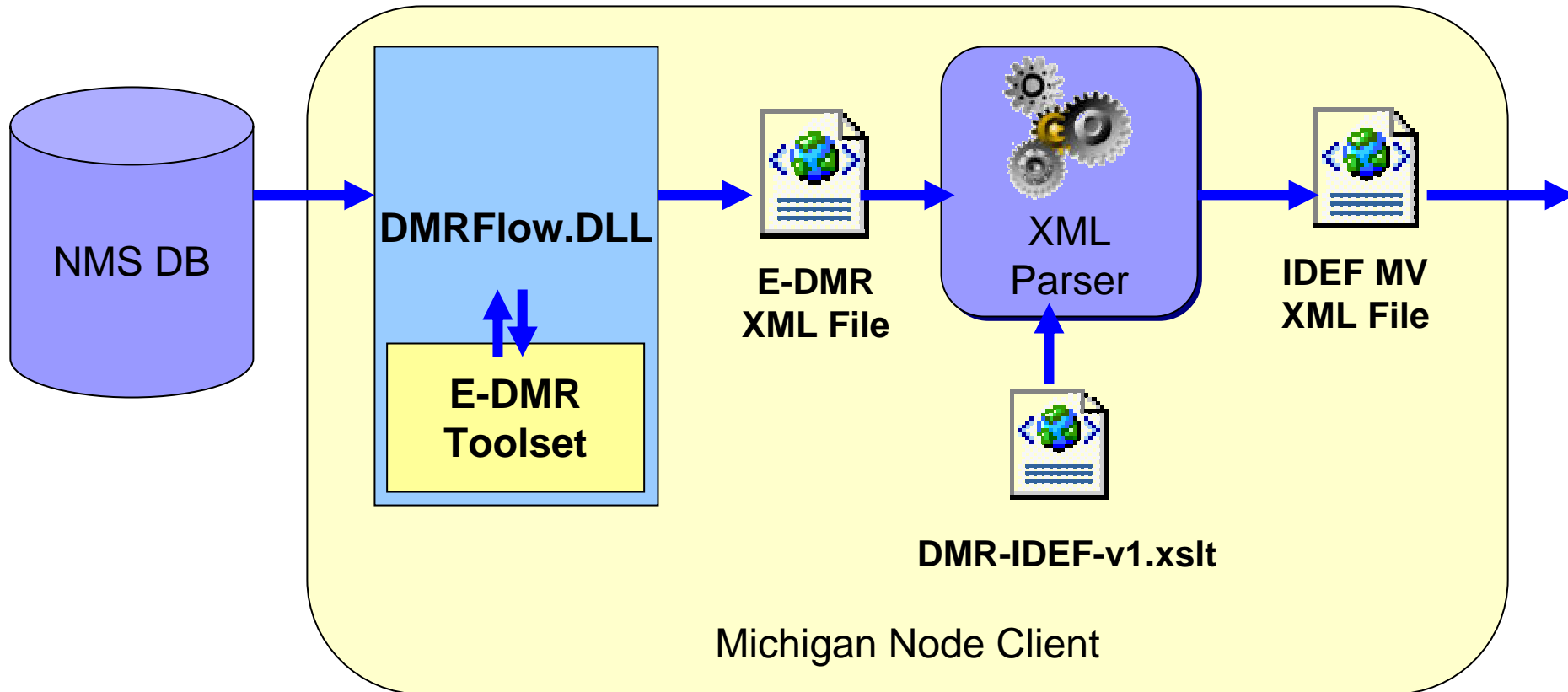
NO DISCHARGE FROM SITE:

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQUENCY OF ANALYSIS	
Flow PARM. Code: 50050 Mon. Site No: 001A Stage: 1	Sample Measurement	<input type="text"/>	<input type="text"/>	MGD	****	****	****	****	<input type="text" value="0"/>	Daily ▼	Report T
	Permit Requirement	(report) Maximum Monthly Average	(report) Maximum Daily		****	****	****		****		Daily
Total Residual Chlorine PARM. Code: 50060 Mon. Site No: 001A Stage: 1	Sample Measurement	****	****	****	****	****	<input type="text"/>	ug/l	<input type="text" value="0"/>	3X Weekly ▼	Grab
	Permit Requirement	****	****		****	****	(report) Maximum Daily				3X Weekly
Oil and Grease PARM. Code: 00556 Mon. Site No: 001A Stage: 1	Sample Measurement	****	****	****	****	****	<input type="text"/>	mg/l	<input type="text" value="0"/>	Weekly ▼	Grab
	Permit Requirement	****	****		****	****	10 Maximum Daily				Weekly
Temperature (F) PARM. Code: 00011 Mon. Site No: 001A Stage: 1	Sample Measurement	****	****	****	****	****	<input type="text"/>	F	<input type="text" value="0"/>	3X Weekly ▼	Measure
	Permit Requirement	****	****		****	****	90 Maximum Daily				3X Weekly
Outfall Observation PARM. Code: 84130 Mon. Site No: 001A Stage: 1	Sample Measurement	<input type="text"/>	****	yes/no	****	****	****	****	<input type="text" value="0"/>	Weekly ▼	Visual
	Permit Requirement	(report) Yes/No	****		****	****	****		****		Weekly

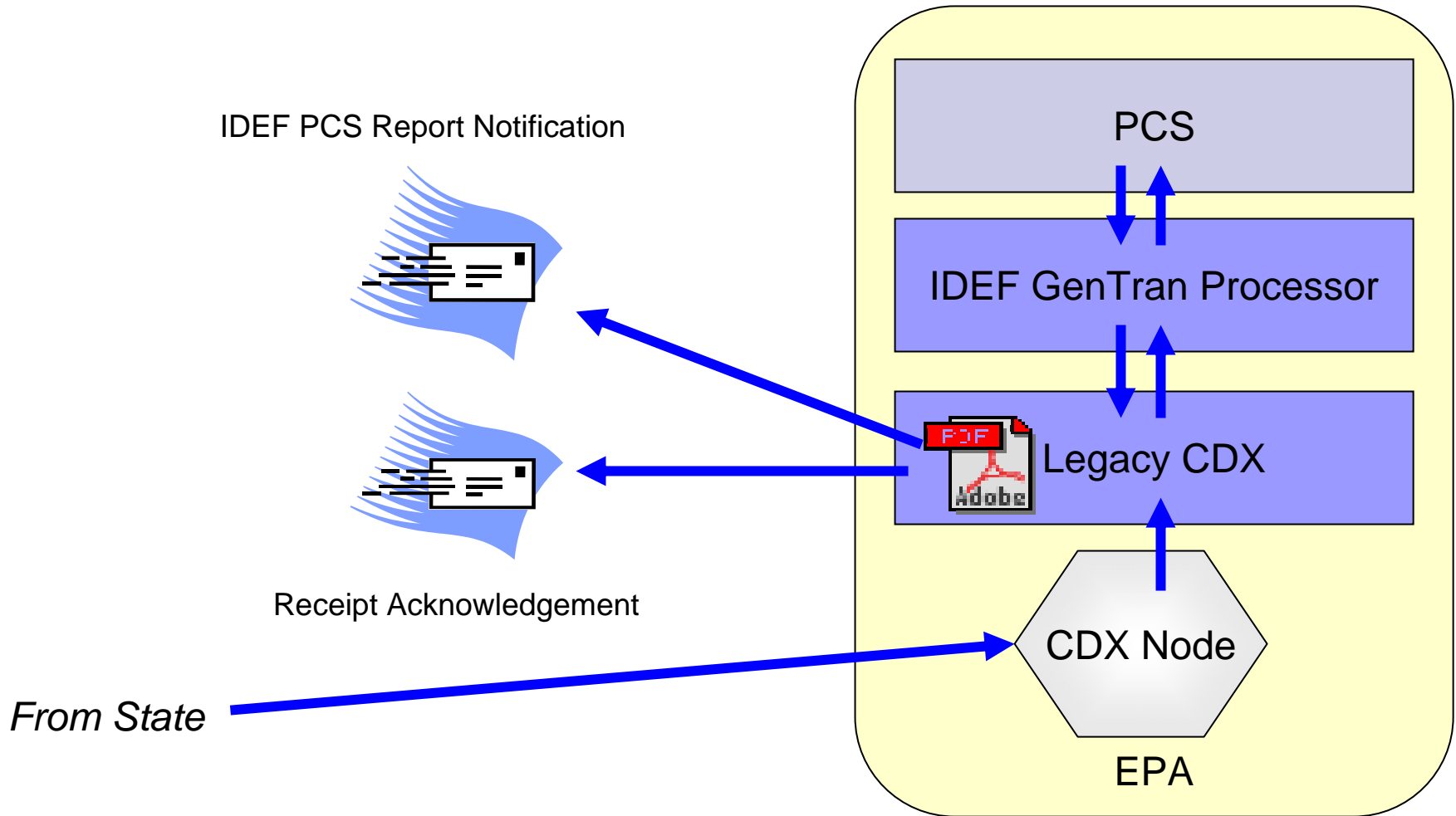
State-to-EPA DMR Data Flow



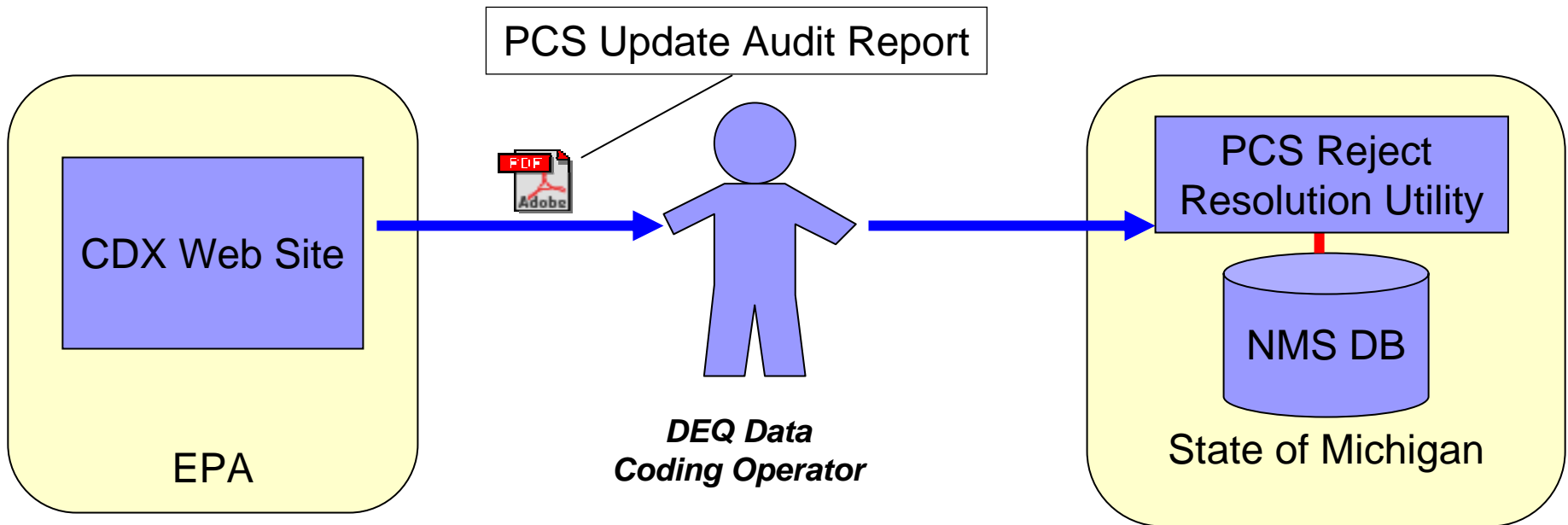
Michigan Node Client Processing



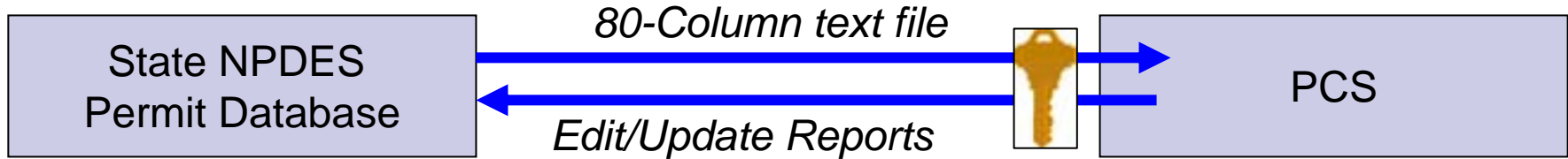
EPA-to-State Feedback Flow



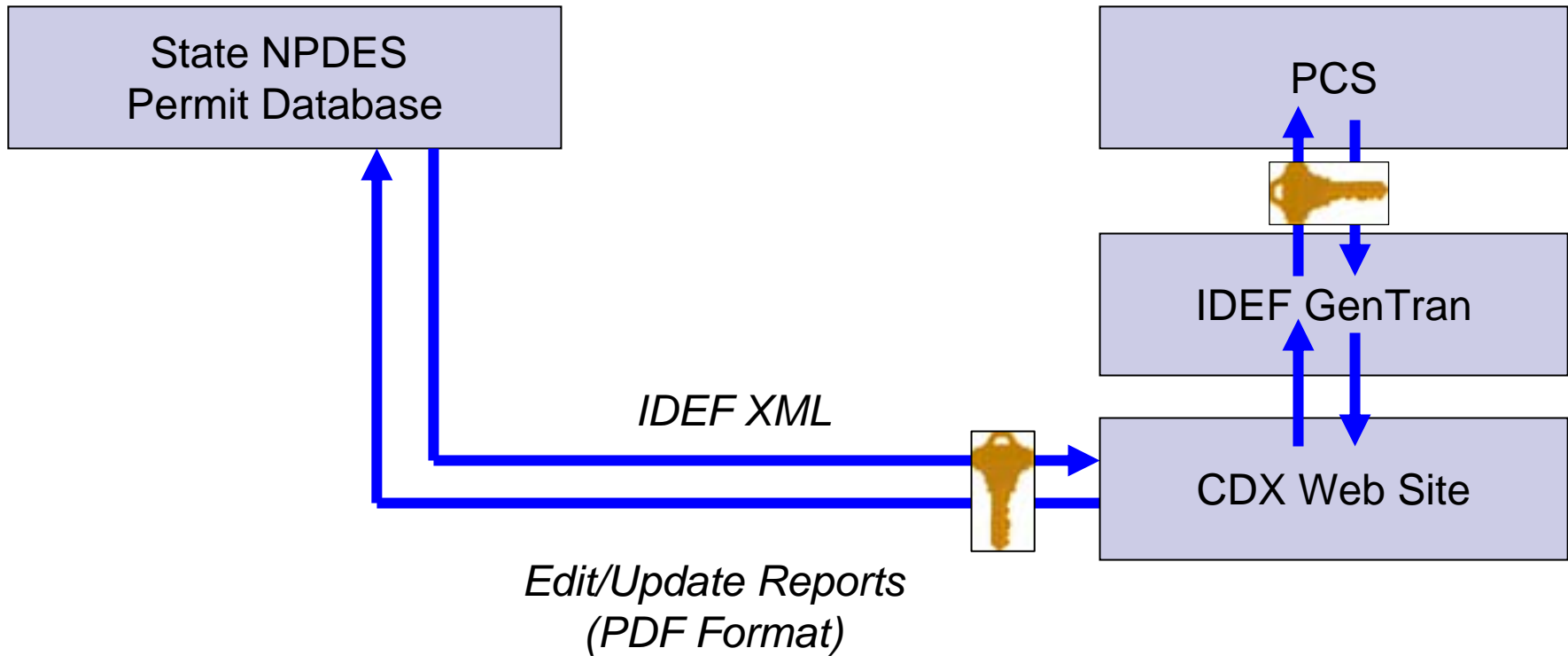
EPA-to-State Feedback Flow



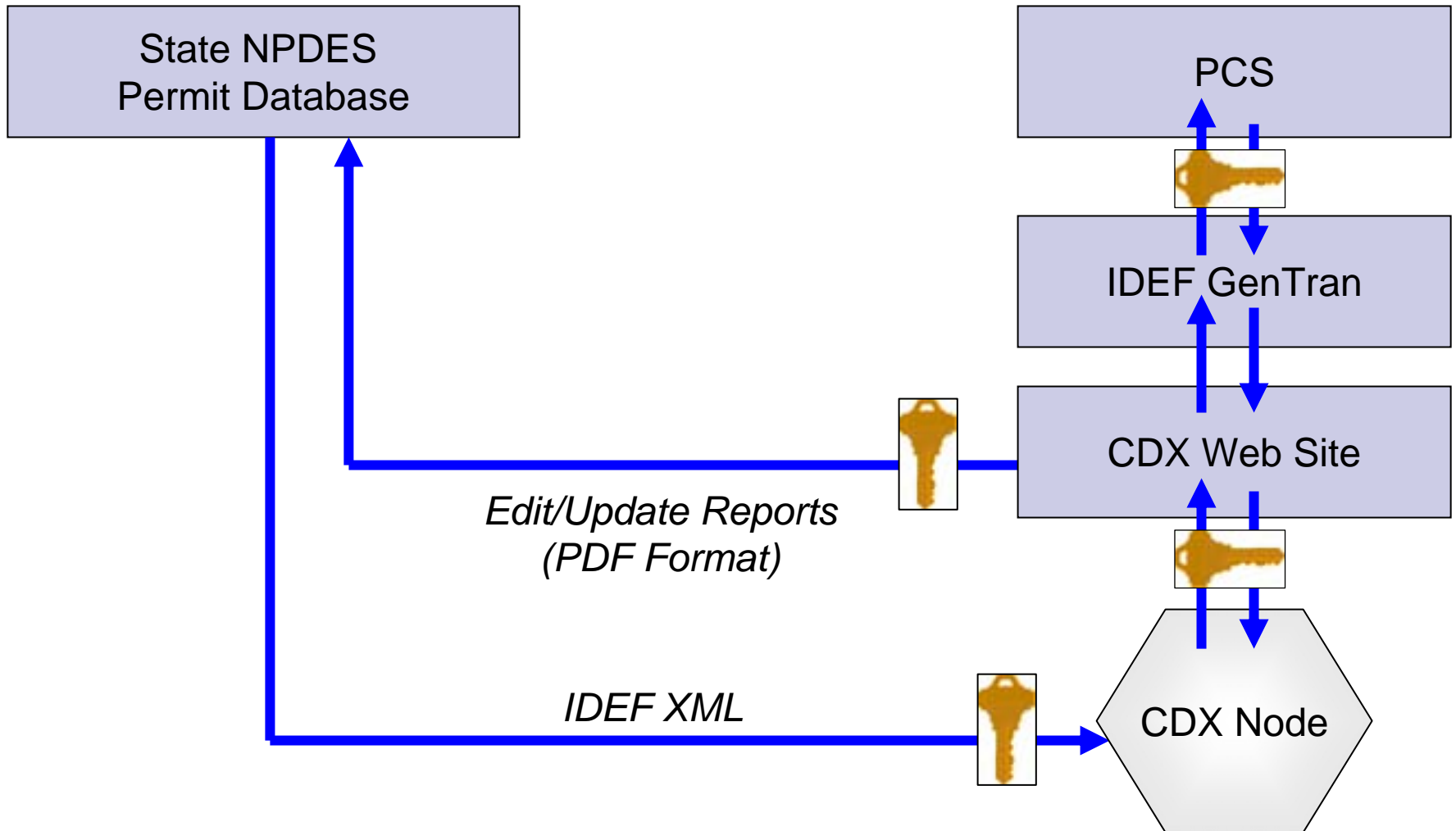
The BIG Picture



The BIG Picture



The BIG Picture



FLOWS are about PROCESSING!

- Two Aspects of Data Exchange:
 - Format
 - Data Container
 - XML Schema
 - Process
 - Rules surrounding the flow of data
 - More complex than creating a format
 - Can we have XML-based processing instructions?

The “Ideal” Data Flow Scenario

- One Owner/Authority for a given dataset
- Each owner publishes to their node
- Nodes each provide a common interface for given data flow

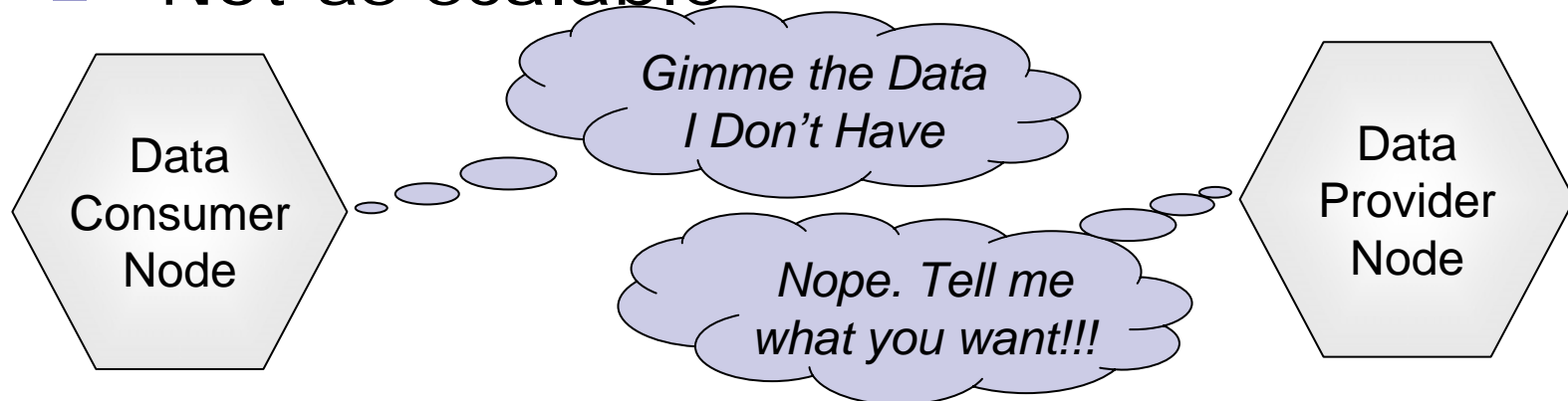
The “Ideal” Data Flow Scenario

- Data Consumer should initiate Requests from the Data Provider
 - “Come and get it” approach
 - Only the consumer knows what it needs and when it needs it



The “Ideal” Data Flow Scenario

- Data Provider should need NO knowledge of Data Requestor’s state
 - Complexity of storing data consumer’s state on the provider side
 - Not as scalable



The “Synchronization” Data Flow Scenario

- Push or Pull will work
- Should all happen in the background
- Only require user intervention when and exception occurs
- Difficult to achieve when synchronizing heterogeneous systems
 - Crosswalking data...what a mess!

Final Thoughts...

The Ubiquitous “Questions” Slide with Tacky WordArt

QUESTIONS???