

# **CMMI for Acquisition Organizations: The Next Wave of Outsourcing**

**2006 SEPG, Nashville**

**Fred Killeen**

**Chief Technology Officer and Director  
of the Systems Development Factory,  
General Motors Corporation**







**GMC**





















# Our Products

1 in every 6 cars built in the world is from the GM Automotive Network



GMC



Chevrolet



Cadillac



Saturn



Vauxhall



Saab



Holden



Opel



Hummer



Pontiac



Daewoo



Buick



# General Motors Corporation

- World's largest provider of transportation products and related services
- Sells products in more than 200 countries
- Manufacturing operations facilities in 33 countries
- Sold 9.17 million cars and trucks globally in 2005
- 327,000 global employees
- 14,000 dealers help GM deliver to the market
- 2005 revenue of \$193 billion



# Manufacturing at GM

**178 Plants located in  
33 Countries**

**Approximately 5,000  
parts in each vehicle**

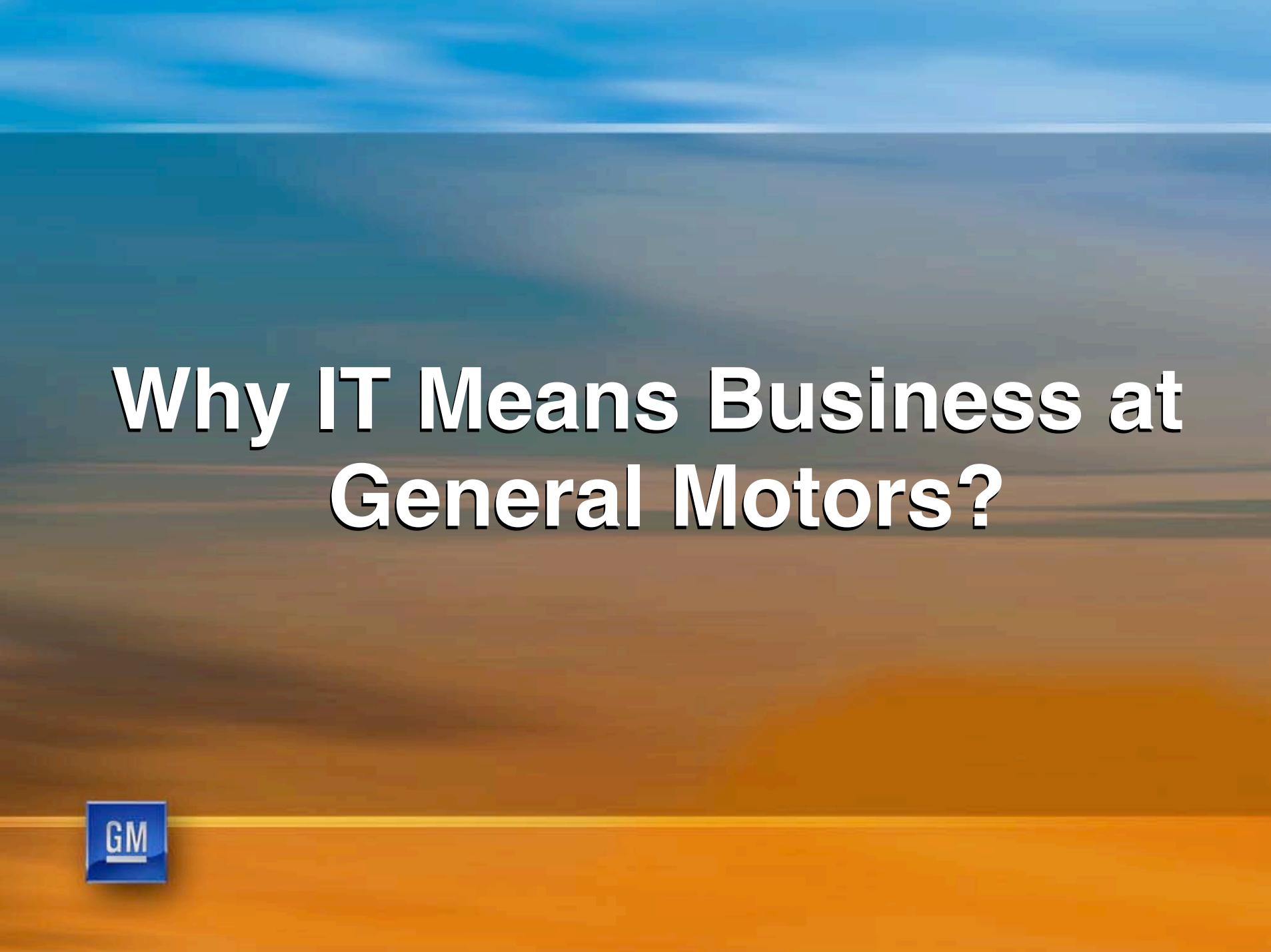
**\$104 billion of material  
and services purchased  
annually**

**375 million sq ft of  
Manufacturing space  
including Joint Ventures**

**14 million pounds of  
material received daily**

**3,200 sources provide  
delivery "just in time"**





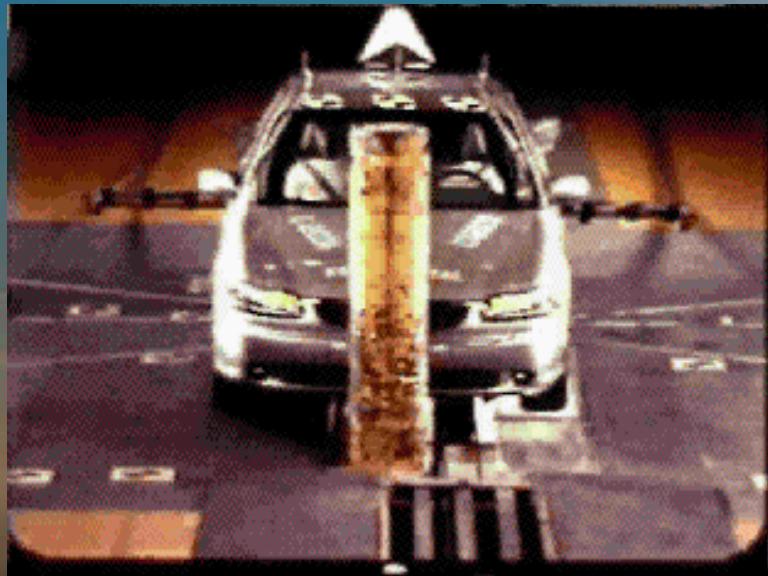
# Why IT Means Business at General Motors?

# Crash Tests Through the Years

Crash Test - 1936



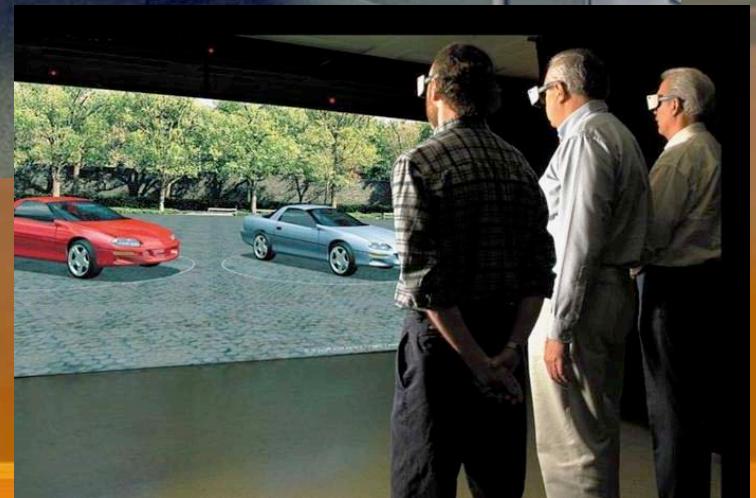
# Crash Tests Today



P90, 30MPH CENTER POLE  
Time = 0



# Visualizing Product Before Build





# OnStar: Innovative Services for Subscribers

- Automatic Airbag Crash Notification
- OnStar Vehicle Diagnostics which is a monthly email from vehicle to its owner
- Turn by Turn which is a new navigation service that has just launched
- OnStar is the 2005 CIO Enterprise Value Awards Grand Winner

OnStar Vehicle Diagnostics for your 2006 Buick LaCrosse as of 11/01/2005

No Issues Found Action Suggested Immediate Attention

**Goodwrench DIAGNOSTIC INFORMATION**

Engine and/or Transmission System: Diagnostic Completed. • No action needed. More information

Air Bag System: Diagnostic Completed. • No action needed. More information

OnStar System: Diagnostic Completed. • No action needed. More information

**Maintenance Information**

Remaining Oil Life: 0% • Schedule a visit with your GM dealer as soon as possible. More information

**NOTIFICATION INFORMATION**

Recall Reminder: Campaign #: <XXXXXX> • Please visit your GM dealer for service.

OnStar Subscription: Account Number: 123-4567-890 • Directions & Connections Plan • Expires 06/13/06 • No credit card on file. [Renew Subscription](#)

Hands-Free Calling: Vehicle Phone #: 313-555-0000 • 72 minutes remaining • Good until: 6/13/06. More information

XM Satellite Radio: Trial Period Ends: 11/1/05 Radio ID Number: 12345678 Your trial is almost over, to subscribe now [click here](#).

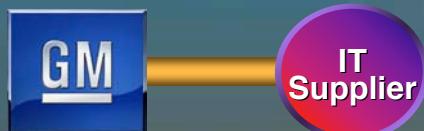
**DEALER INFORMATION**

Selling Dealer: BERGER PONTIAC-OLDSMOBILE-BUICK-CADILLAC-GMC RR3 BOX 3436 SUSQUEHANNA BLVD., HAZELTON, PA 18202 (570) 454-9666

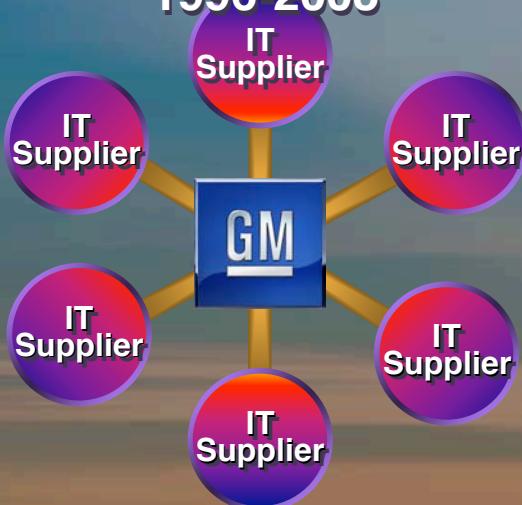
OnStar by GM

# The IT Outsourcing Process at GM

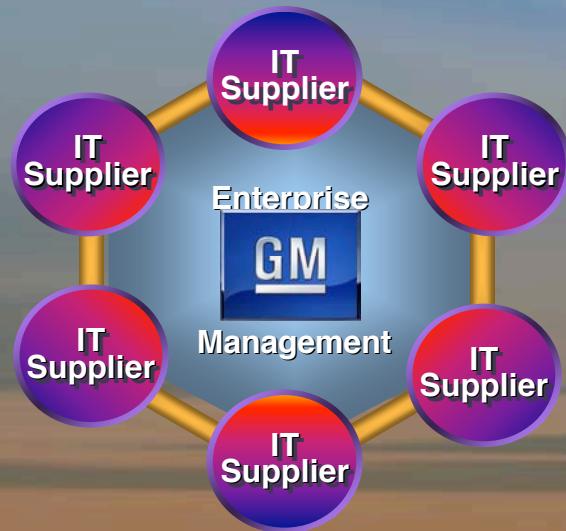
First Generation  
1984-1996



Second Generation  
1996-2003



Third Generation  
2003→



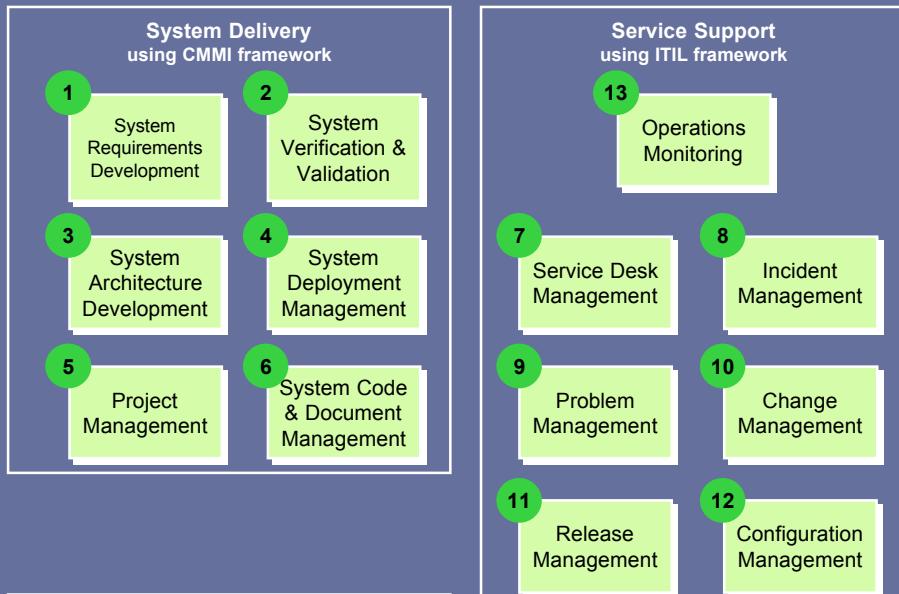
- GM purchases EDS: all IT employees transferred to EDS
- EDS business unit split off
- GM IT formed
- Adoption of CMMI
- Multi-Supplier environment
- Business Process Outsourcing
- CMMI for Acquisition

# Standardize IT Processes

Manage Business Engagement

Measure Business Results

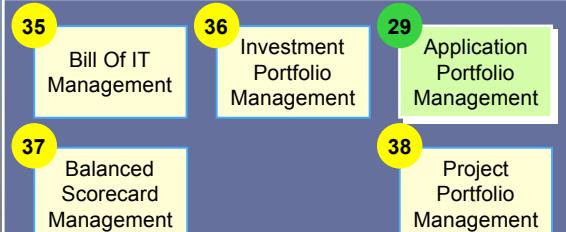
## Create & Sustain Information Systems



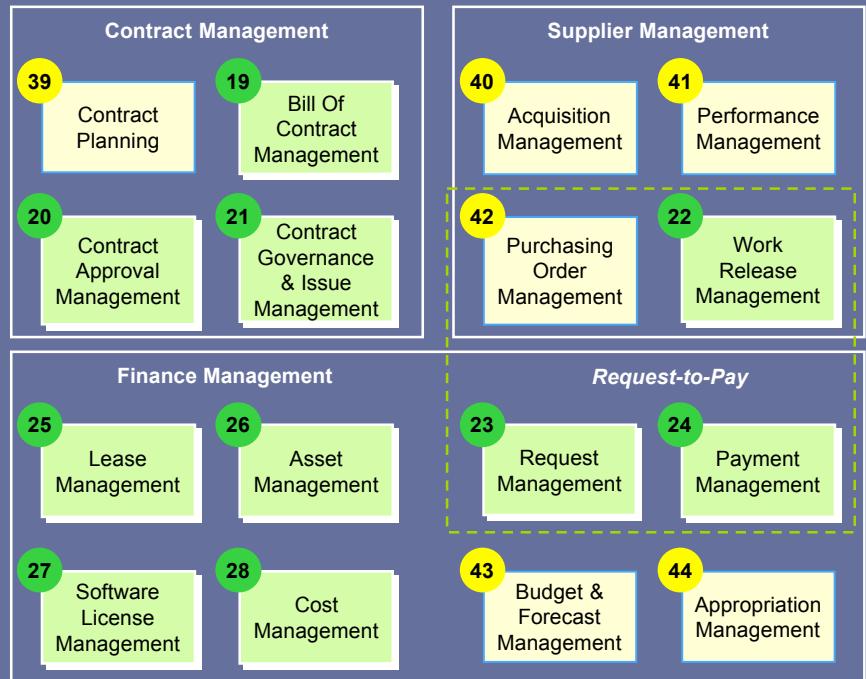
## Manage Architecture & Standards



## Strategic Planning



## Management Enablers



**G** Key to Outsourced Model

**Y** Internally Focused

# GM Challenges Using CMMI

**CMMI does not effectively address acquirer needs:**

- Contains work not executed by the acquirer
- Does not address some required work
- Lacks precise definition of the acquirer-supplier relationship



# GM/SEI Joint Project: The Initial CMMI-A

- Develop an Acquisition Model that conforms with the CMMI architecture
- Involve industry and government agencies in developing and piloting the initial CMMI-A
- Make the CMMI-A available for initial industry and government use in 2006



# Major Design Goals of Initial CMMI-A

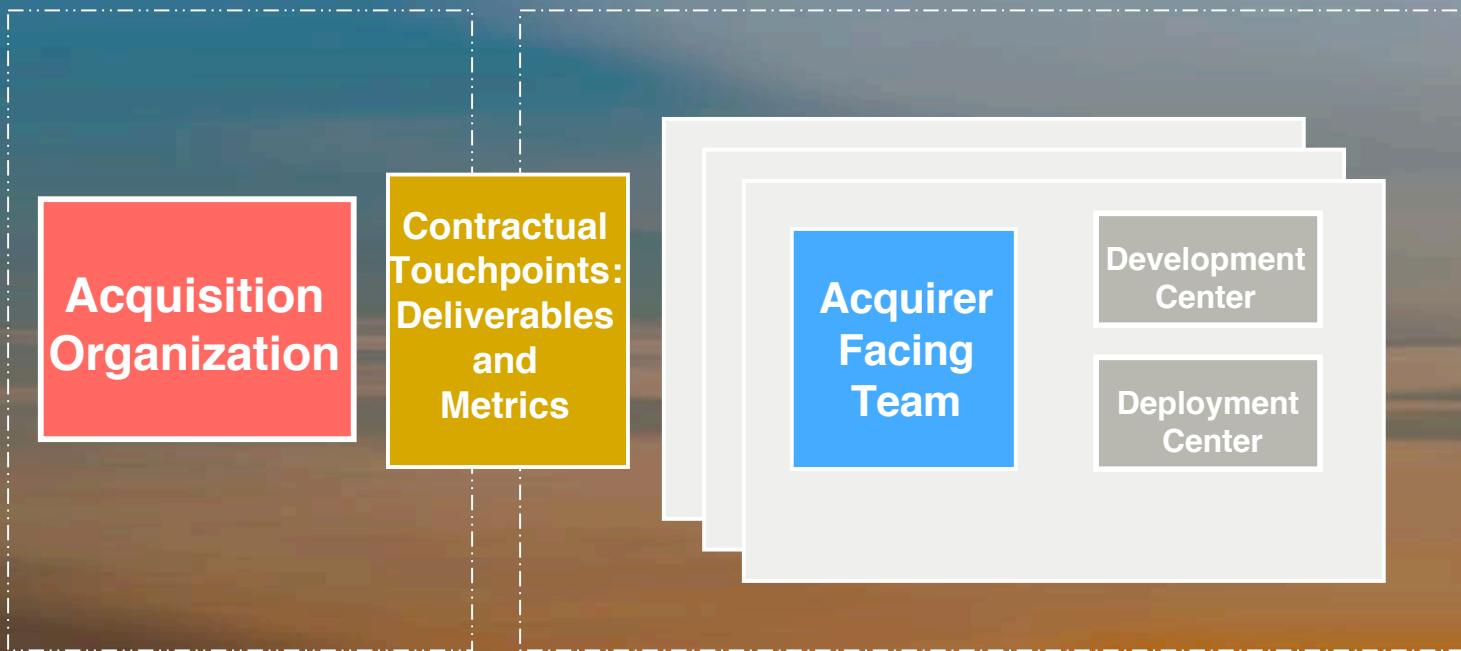
- Clarifies the acquirer-supplier relationship
- Defines minimum set of acquirer practices
- Provides a lean model
- Usable by government and industry
- Results in a complete, appraisable model



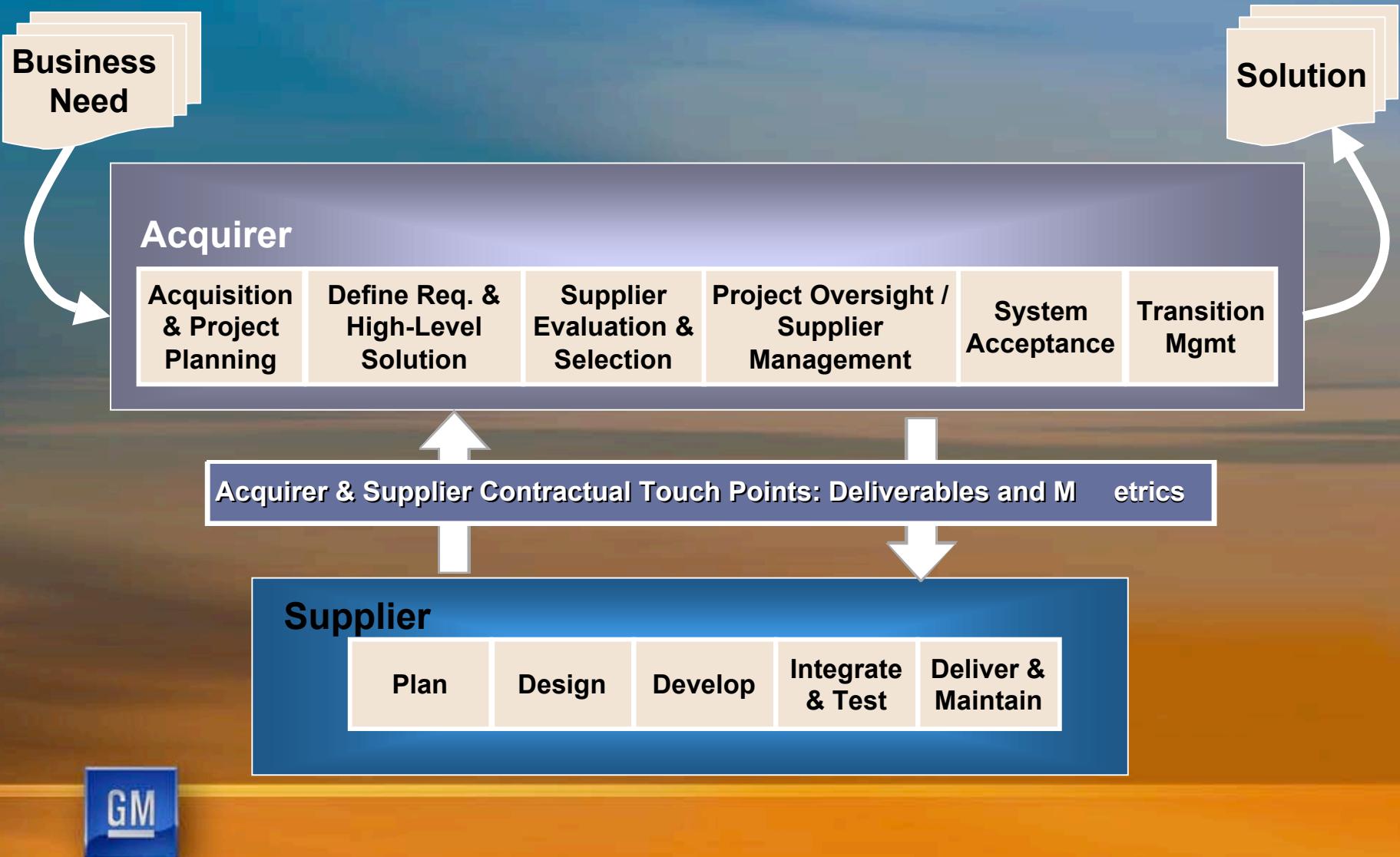
# The Acquirer-Supplier Relationship

Acquirer

Supplier



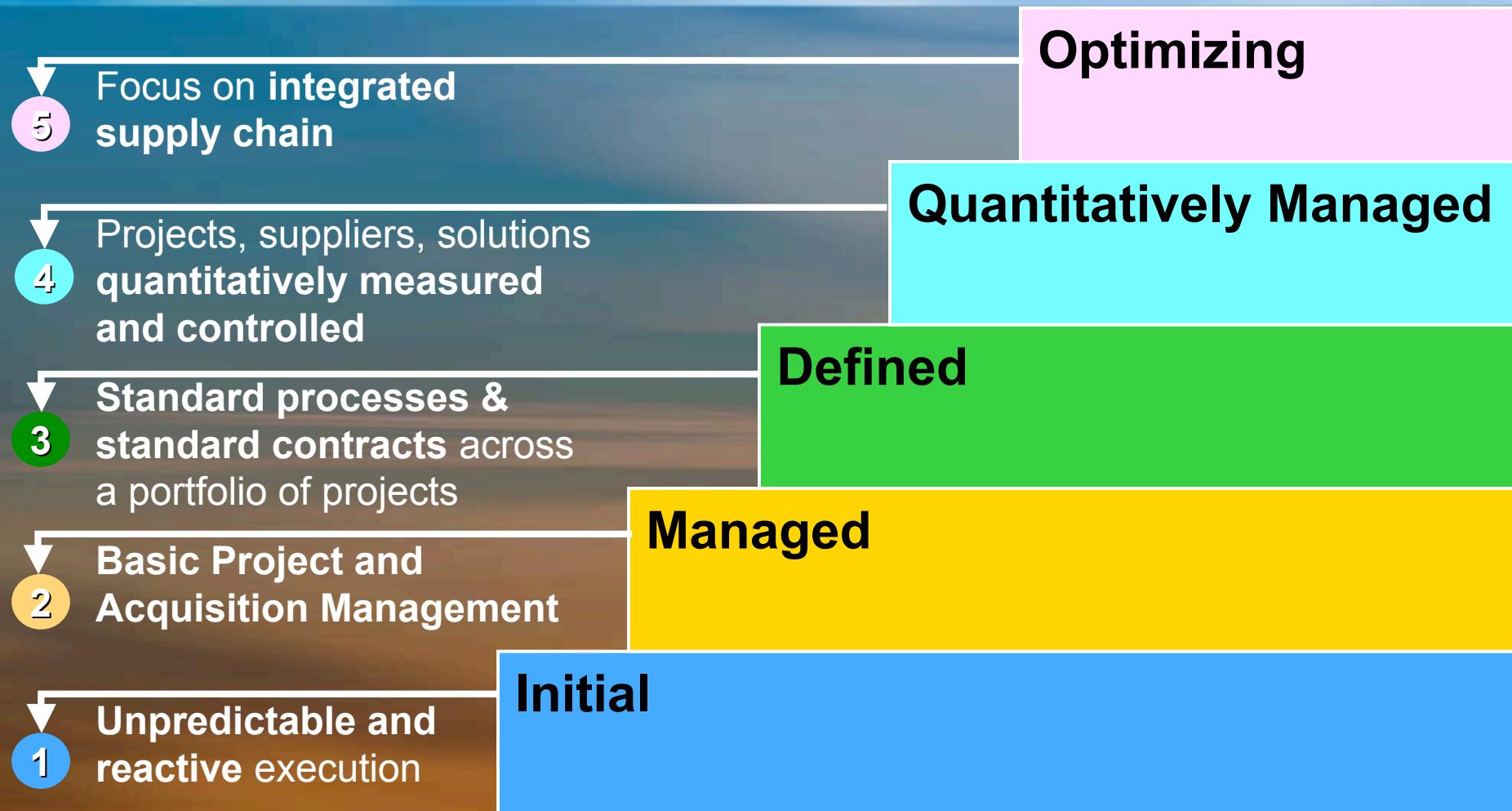
# Minimum Set of Acquirer Practices



# CMMI for Acquisition: A Lean Model



# Maturity Levels for Acquirers



# Next Steps

- Release initial CMMI for Acquisition Model in May 2006
- Publish CMMI for Acquisition book with GM, industry and government examples in August 2006
- Pilot the initial CMMI-A with government and industry throughout 2006 and 2007



# Acknowledgements

## General Motors

- Kathryn Dodson (EDS)
- Zahira Gonzalvo (GM)
- Gowri S. Ramani (HP)
- Hubert F. Hofmann (GM)
- Joyce Statz (Borland)
- Deborah K. Yedlin (GM)

## NASA

- John Kelly
- Chuck Niles
- Pat Schuler



## Software Engineering Institute

- Anita Carleton
- Matt Fisher
- Brian Gallagher
- Mike Konrad
- Jim Over
- Bill Peterson

## OUSD(AT&L)/DS

- Kristen Baldwin

## Reviewers

- Over 150 reviewers from more than 40 companies and government agencies