

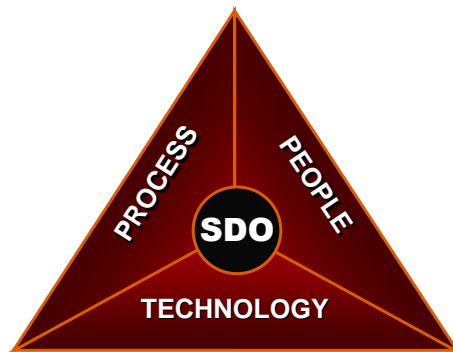
MAXIMIZE THE  
BUSINESS VALUE  
OF SOFTWARE

## CMMI: Beast or Blessing

Bill Curtis  
Chief Process Officer

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## Software Delivery Optimization Vision



Undisciplined



Inefficient



Amateurish

**Software Delivery Optimization—**  
solutions for all three components  
of successful development:

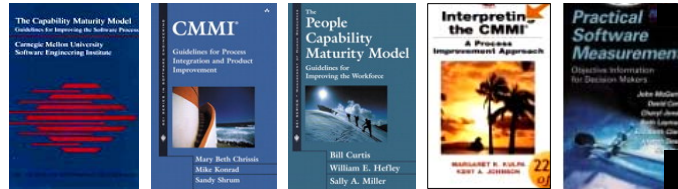
- Technology – *life cycle integration*
- Process – *coordination and discipline*
- People – *ability to execute*

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## TeraQuest Acquired by Borland

SCOTTS VALLEY, Calif. — January 18, 2005 — Borland Software Corporation, the global leader for Software Delivery Optimization solutions, today announced the acquisition of TeraQuest Metrics, Inc., a global process consulting firm based in Austin, Texas. The acquisition will enable Borland to create one of the industry's most comprehensive process optimization practices, leveraging TeraQuest's deep experience and proven offerings in CMMI, software improvement, quality assurance and risk management.

### World Leader in CMM/CMMI-based services



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## What Scares You About CMMI?

- 1) It creates needless bureaucracy
- 2) It will destroy my creativity
- 3) You cannot be agile
- 4) It empowers bad managers
- 5) It takes 2 years to see benefits

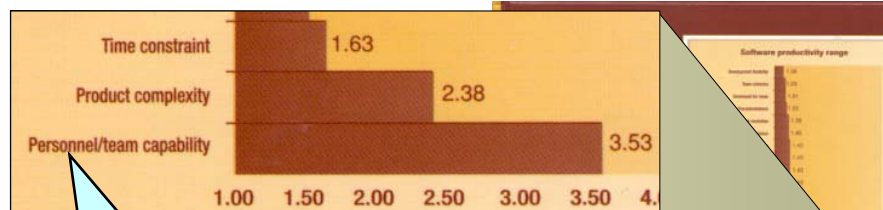


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## What Underlies These Fears?



## People Are Still The Big Issue



*“After product size, people factors have the strongest influence in determining the amount of effort required to develop a software product.” (P. 46)*

Boehm, et al. (2000)

### SOFTWARE COST ESTIMATION WITH COCOMO II

Barry W. Boehm · Chris Abts · A. Winsor Brown  
Sunita Chulani · Bradford K. Clark · Ellis Horowitz  
Ray Madachy · Donald Reifer · Bart Steece

## What Hinders Your Creativity?

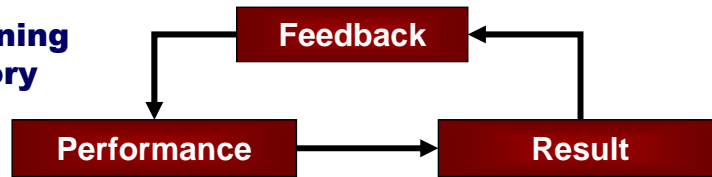


## How Does CMMI Work?



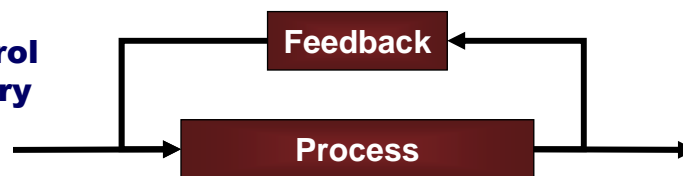
## Two Views of Process

### Learning Theory



**Learning** requires feedback contiguous with performance

### Control Theory



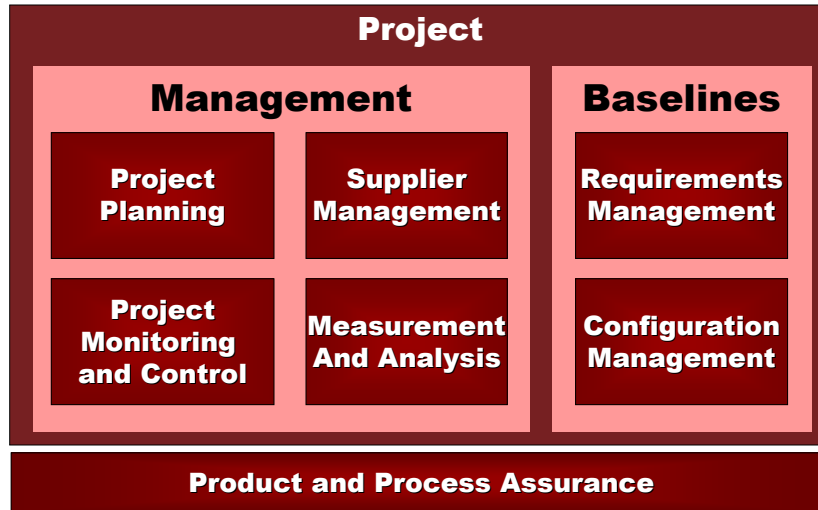
Keeping a process under **control** requires a feedback loop

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## Process Maturity Framework

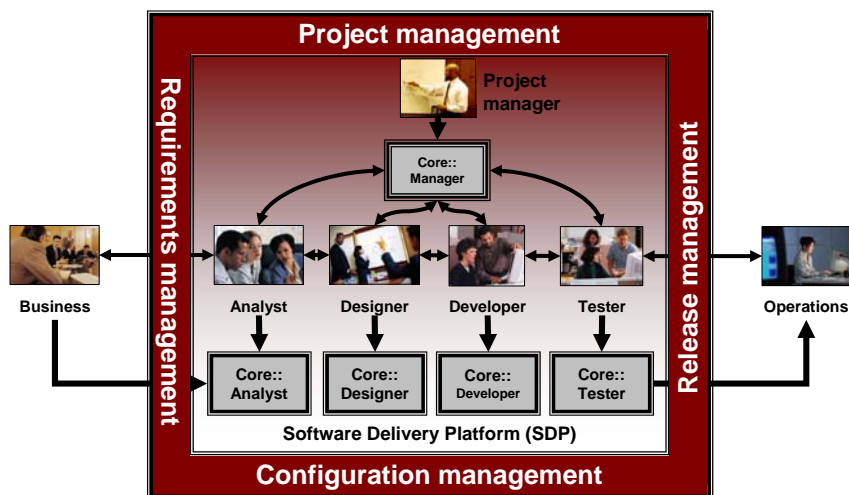
Levels	Maturity Level Objectives
5 Optimizing	Continuously improve the framework
4 Quantitatively Managed	Manage and exploit knowledge created by the framework
3 Defined	Establish a common organizational framework
2 Managed	Create a management foundation within projects
1 Initial	Motivate people to 'get the job done' regardless of the difficulties

# CMMI Level 2: Managed



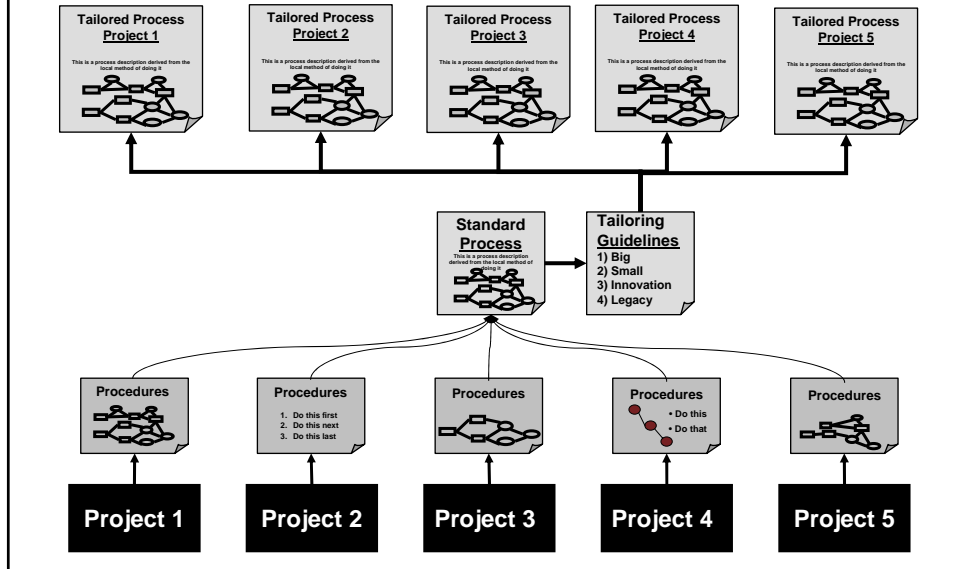
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# Stabilizing Projects

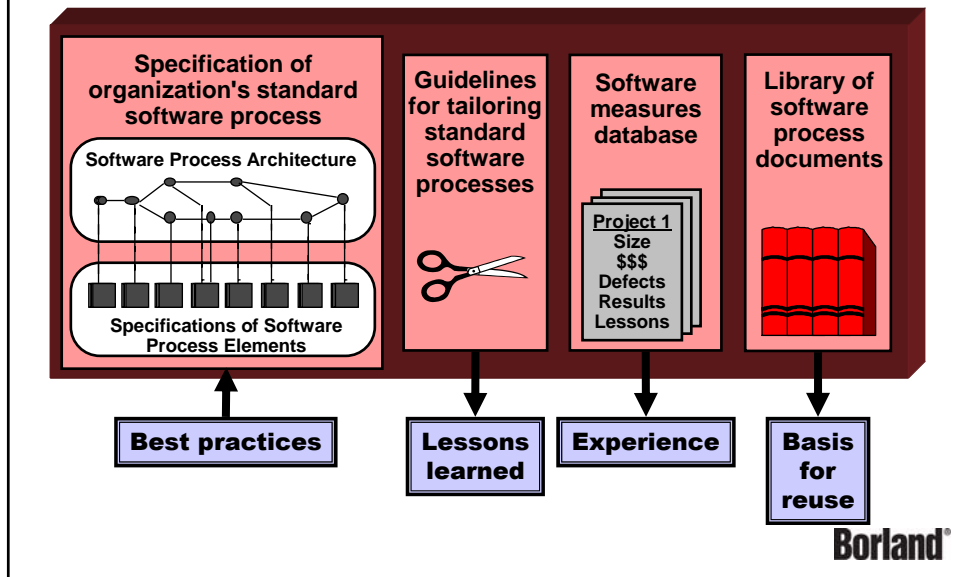


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# CMMI Level 3: Learning Structure



# Environment for Learning



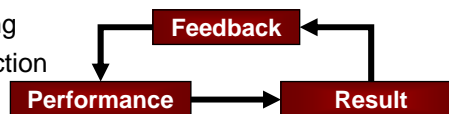
## Maturity-Based Learning

Level	Control mechanism
Level 5	Experimental learning
Level 4	Quantitative learning
Level 3	Organizational learning
Level 2	Project learning
Level 1	Individual learning

## Agile Learning Mechanisms

### Agile control mechanisms:

- Short cycle iterations
- Tight-loop peer interaction
- Continuous in-process testing
- Continuous customer interaction
- Mentoring

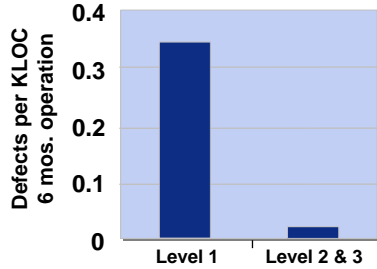


### Agility requires greater process discipline:

- Shorter time cycles
- Shorter feedback cycles
- Greater coordination to maintain progress

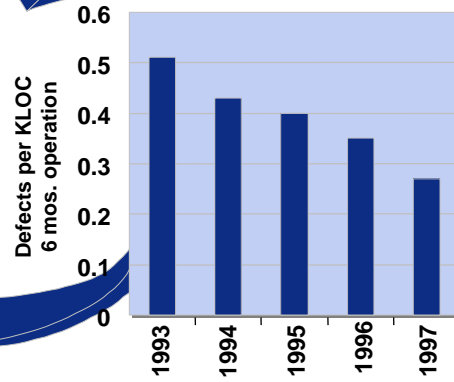


## Ericsson's Business Results



**1997 Annualized Results**

- 7.7 MLOC developed
- 0.26 Defects/KLOC
- \$32M saved in AD
- \$71M saved in Ericsson

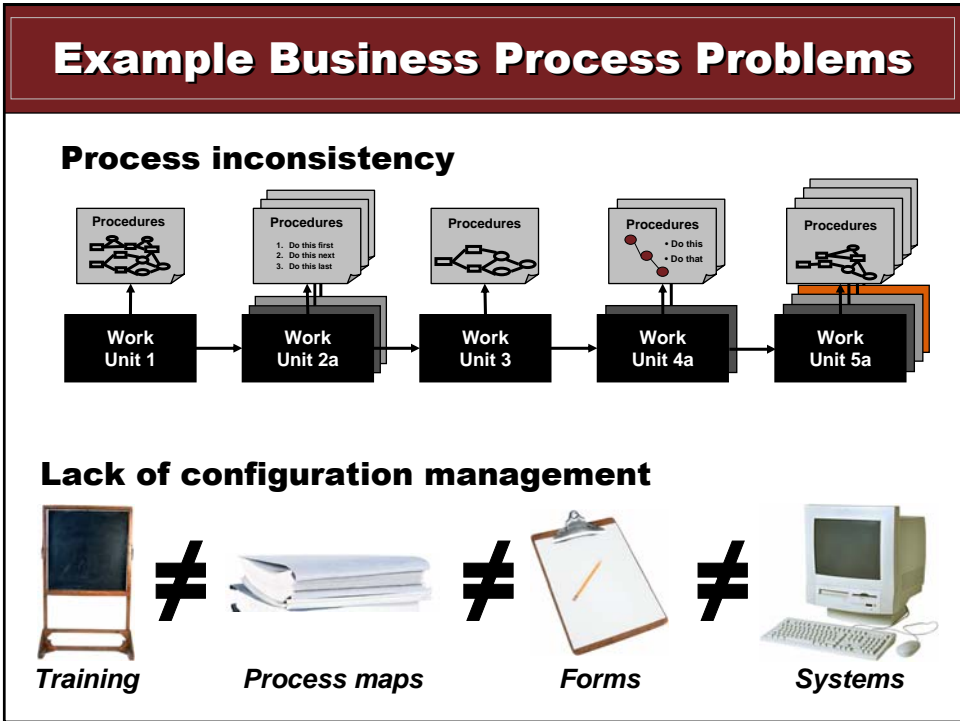
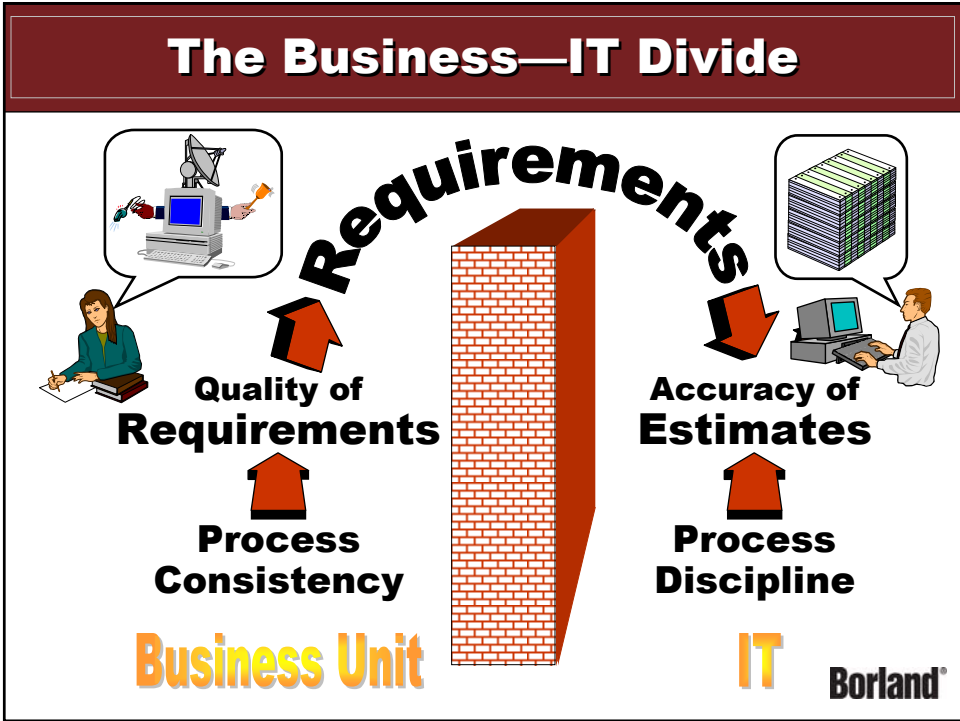


Dyne (2000)

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## What About Interactions with Business?





## Reversing Positions with Business

Level	The Business	IT
3	"We're now the problem"	"We know"
2	"Non-responsive"	"No, it will take longer!"
1	"You're not a reliable partner"	"We know"

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## Evolution of Maturity Models

### Business Process MM

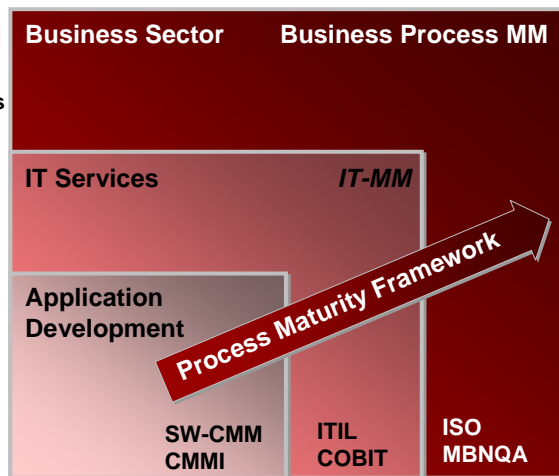
- Bus. Process Management
- Any organizational process
- Early ROI

### IT Maturity Model

- Service operations
- ITIL & COBIT content
- Process maturity roadmap

### CMM/CMMI

- Project-based
- Well understood
- Proven success



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MAXIMIZE THE  
BUSINESS VALUE  
OF SOFTWARE

**CMMI can be a beast,  
but you control it!**  
**Use it to lead your business**

**Borland®**