



SEPG 2006 – Nashville, TN

March 2006



How to Untangle the Hairball: Integrating CMMI and ITIL Effectively in Application Engineering and Operations Environments

Bill Phifer
Ted Hayes

Agenda

- What is there to untangle and why is this important?
- Scope of ITIL SM & ICTIM
- Model interoperability views
- Scenarios
- How to move from a CMMI-only organization to an integrated CMMI/ITIL powered one
- Conclusions



Why is Integration so Difficult and so Necessary?

- The market demands **both ITIL and CMMI**, but cross domain experts are hard to find
- These reference standards were **not designed to complement each other; they are developed with a different focus, there are significant terminology differences**, and typically few integrated teams, processes or roles using them
- Models themselves can't be executed, they **need to be applied to a business environment together with a process architecture** for you to have something that's executable



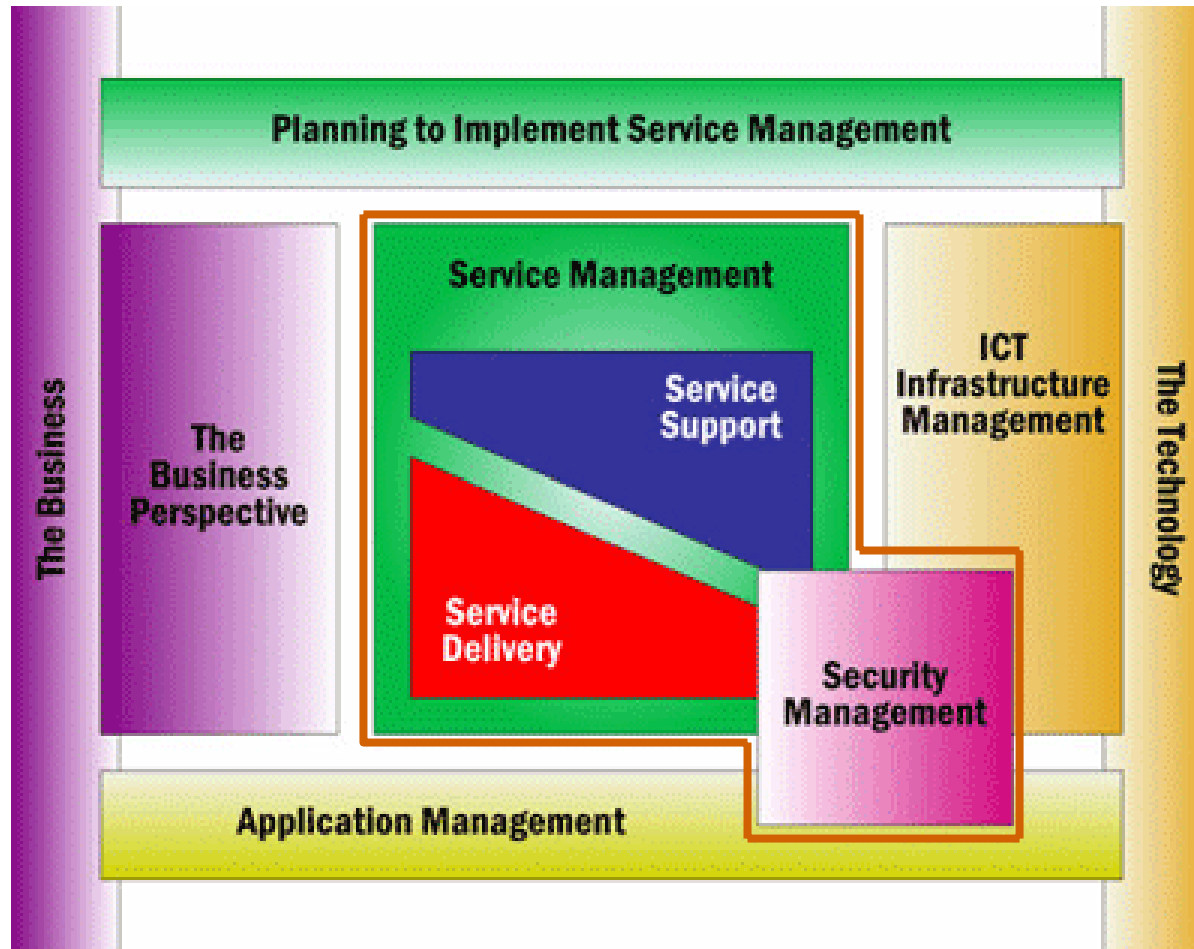
You can develop world class applications but still have poor quality due to a product that doesn't meet business needs or service expectation (cost, reliability, performance) - and lead to failure

Typical Situation Today

- Typically many redundant IT support processes across the enterprise, with confusion on which processes are most applicable
- Need to establish “one way” to execute
- Parochial issues solved by parochial processes
- New problems often lead to the development of new processes
- Lack of modular, integrated “process architecture”
- Significant pressure from many areas of the organization as urgent need to change is recognized
 - Reduce costs and improve quality
 - Streamline and standardize all processes
 - Move towards common process lexicon and terminology

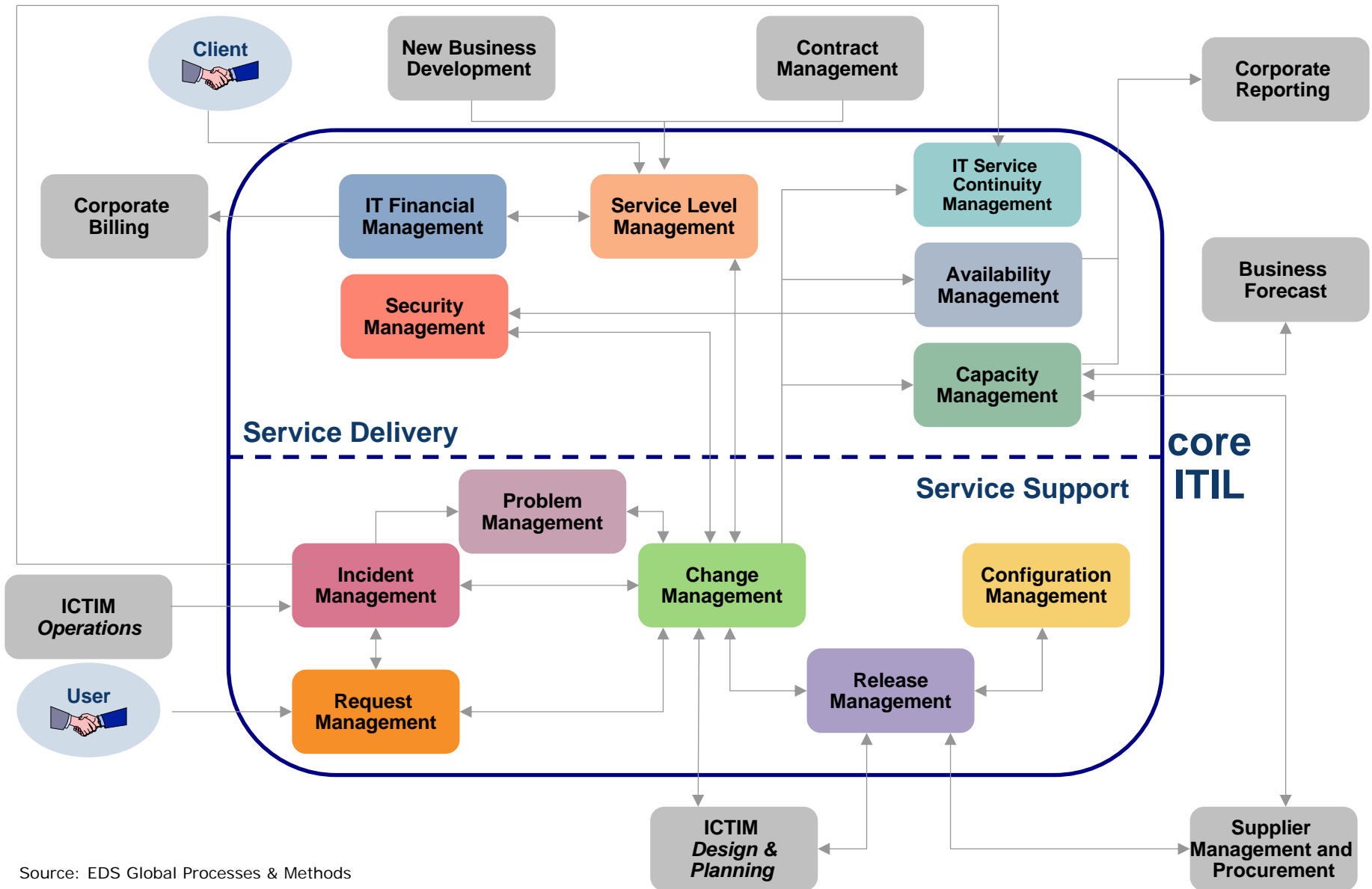


Scope of ITIL (IT Infrastructure Library)



ITIL is more than just Service Management!

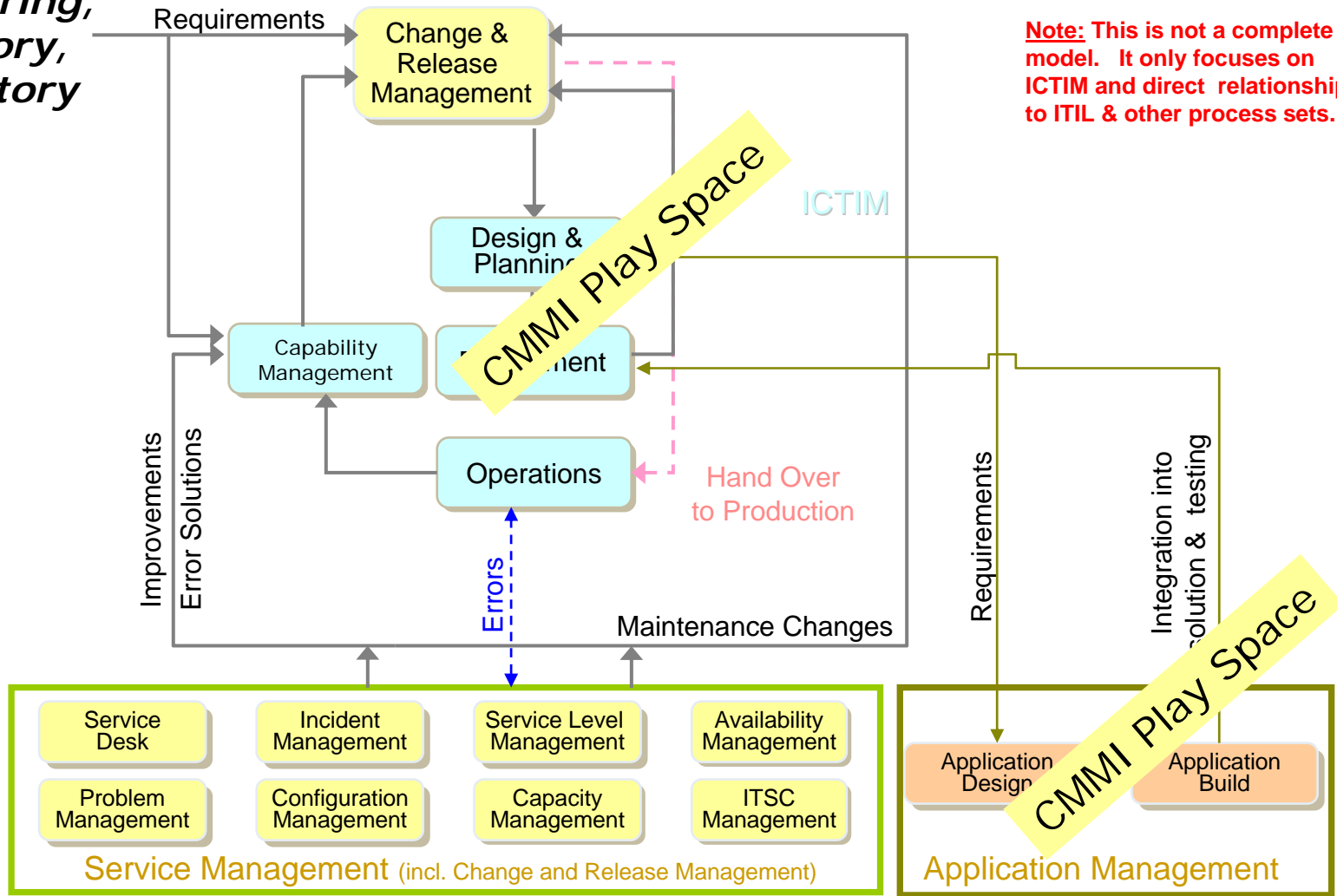
Integrated ITIL SM Process Map



Source: EDS Global Processes & Methods

Integrated ITIL SM & ICTIM View

*Users,
Engineering,
Statutory,
Regulatory*



Note: This is not a complete model. It only focuses on ICTIM and direct relationships to ITIL & other process sets.

Scenario 1 - Web App Server Goes Down

Incident Management

- Disruption of service to user – server outage
- That server is part of ITIL CMDB, is related to app X, which is mapped to a set of pre-defined business users
- Information is sent to client to alert of the business impact of that server outage
- Red indicator displayed on dashboard
- Go through process of resolving Incident
- If issue was application oriented (loop caused excessive utilization and froze the server) then Incident is dispatched to the responsible application support group
- They restore normal service operation (ITIL lexicon)

Problem Management

- Perform analysis and determine cause of the disruption
- Raise an RFC (Request for Change) to remove the error from the environment and prevent further Incidents (could invoke a CMMI process-based code change)
- Obtain approval via Change Management to promote permanent fix to live environment
- Invoke ITIL Release Management to distribute the updated code to the application

Scenario 2 - Web Application Development

- Client requests new web app function to support business process
- Raise **Change Request** to communicate requirements – from **Service Level Management through Change Management to Design & Planning**
- Follow **Design and Planning**: is there an existing architecture that fits this web application?
- Rationalize architecture
- Validate capacity and availability by using the **Capacity and Availability** processes
- Translate requirements into technical specifications
- Allocate the requirements to **Application Design and Deployment**
- Create Solution Package specified by architecture
- If new technology (or even very old technology), application development needs to ensure **Availability** of trained personnel and skill sets
- **Project Management** continually monitors project to ensure there is enough people and resources (as pinged by **Availability Management**)
- **Deployment** includes engineering and integration (ensures traceability to requirements)
- **Release Management** includes testing (functional, performance, co-existence, integration)
- **Change Management** includes approvals and final release to operational environment

Interrelated Disciplines (a sampling)

- *Capacity Management* provides input to the development project about application scope, sizing and stakeholder involvement. Application sizing involves the estimation of technical resource requirements to support the proposed application and communicating these to the development organization. The development project should use this input to ensure that the application will meet its required service levels (Service Level Management) and to ensure that quality is built into the application during the development process.
- *Release Management* facilitates the smooth transition of the newly developed or modified application into production, calling upon the Change and Configuration Management processes to ensure adherence to the approval, scheduling, communication, and documentation policies of the business.
- The development project should notify *Availability Management* about any new skills required of support personnel to manage the newly developed application in a responsive & effective manner.

IT Services and Model Alignments

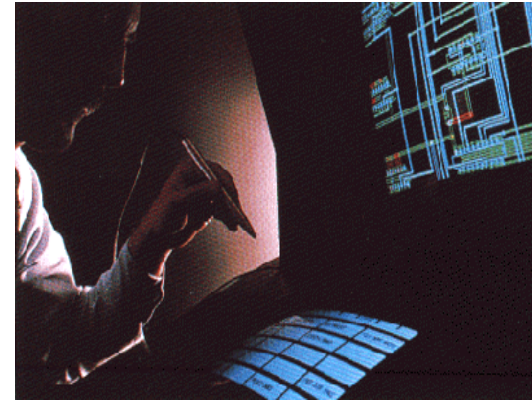
Aligning IT to Business

→ ITIL SM



Architecture and Engineering

→ CMMI + ITIL ICTIM



Application Development

→ CMMI + ITIL Application Management



No One Model (Solution) Does Everything Well!

- Greatest value comes from the interoperability of process sets
- The extent that you are successful in integrating processes will determine the degree of benefit, holistically, you will experience from the strengths of each model
- Exploiting the interoperability of models also yields competitive BUSINESS advantage:
 - Requirements are complete early in the development life cycle, fully in consideration of SLAs, existing engineering and operational changes, required availability and capacity needs, known problems, and performance considerations
 - Problems are avoided or addressed for what they are – business impacts – and eliminated permanently
 - IT and the business processes work together to meet client needs

Making Sense of the Pieces

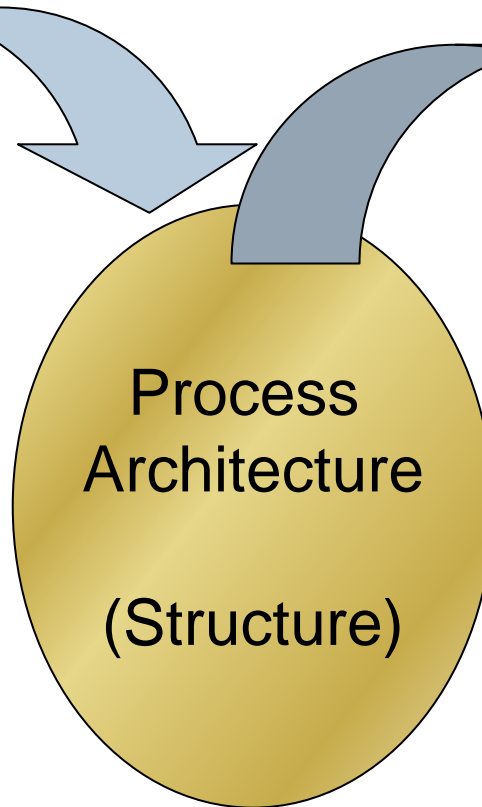
ITIL + Business

Business Process Framework

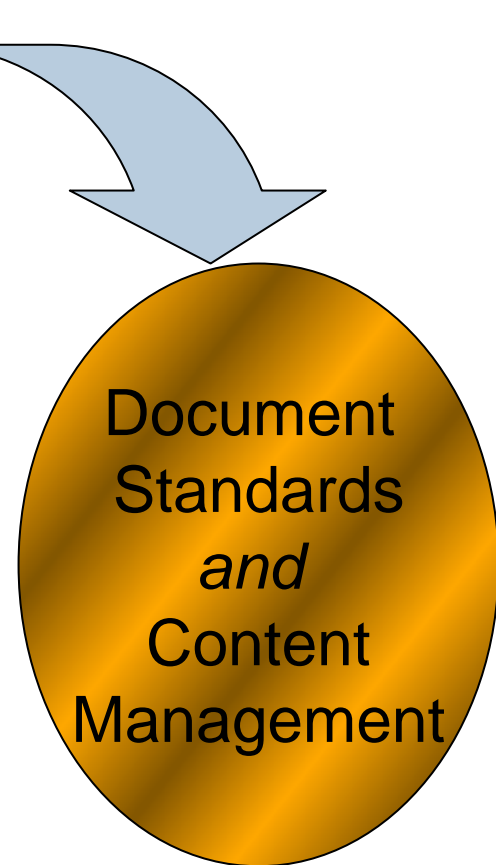
Doc Mgmt



www.ogc.gov.uk

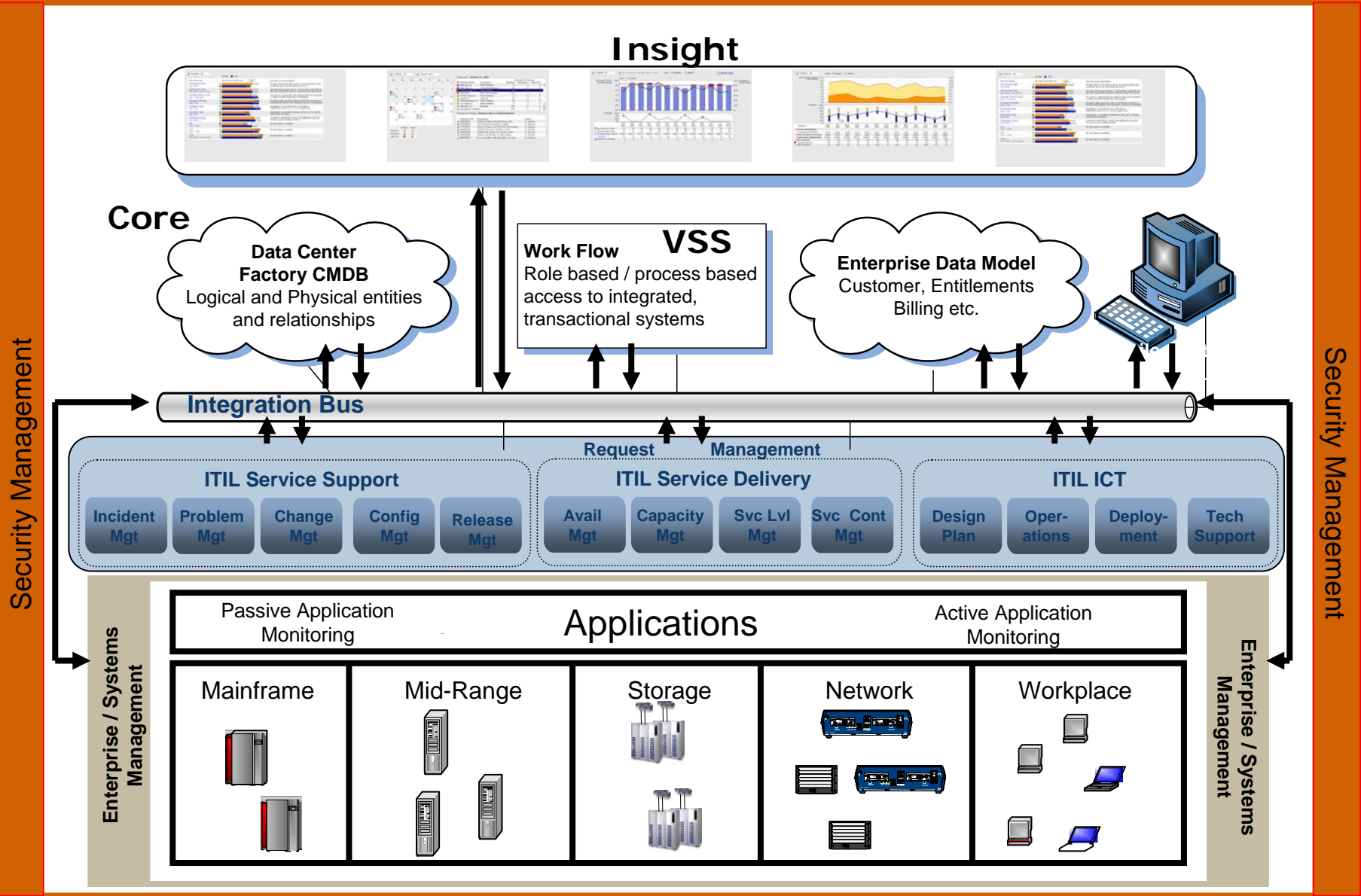


www.BPMI.org



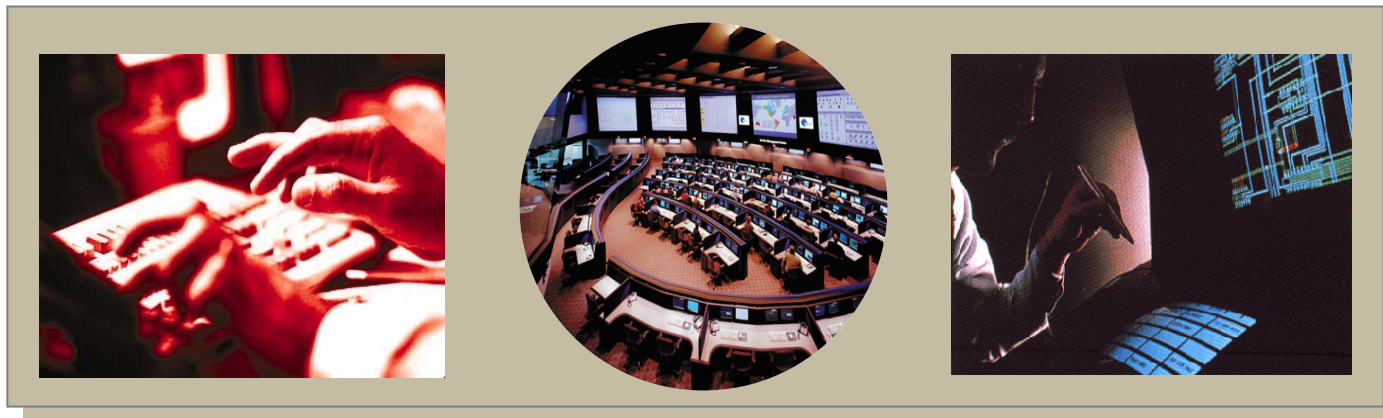
www.iso.org

Introducing an IT Management Model



Maximizing Vertical Expertise

- Leverage centers of expertise
- Align behaviors to appropriate disciplines - horizontal
- Define a single behavior by discipline rather than everyone recreating in their own vertical silo



Example: when restoring service, use the definitive process - ITIL Incident Management.

Same ITIL Value Proposition, Many Possible Routes

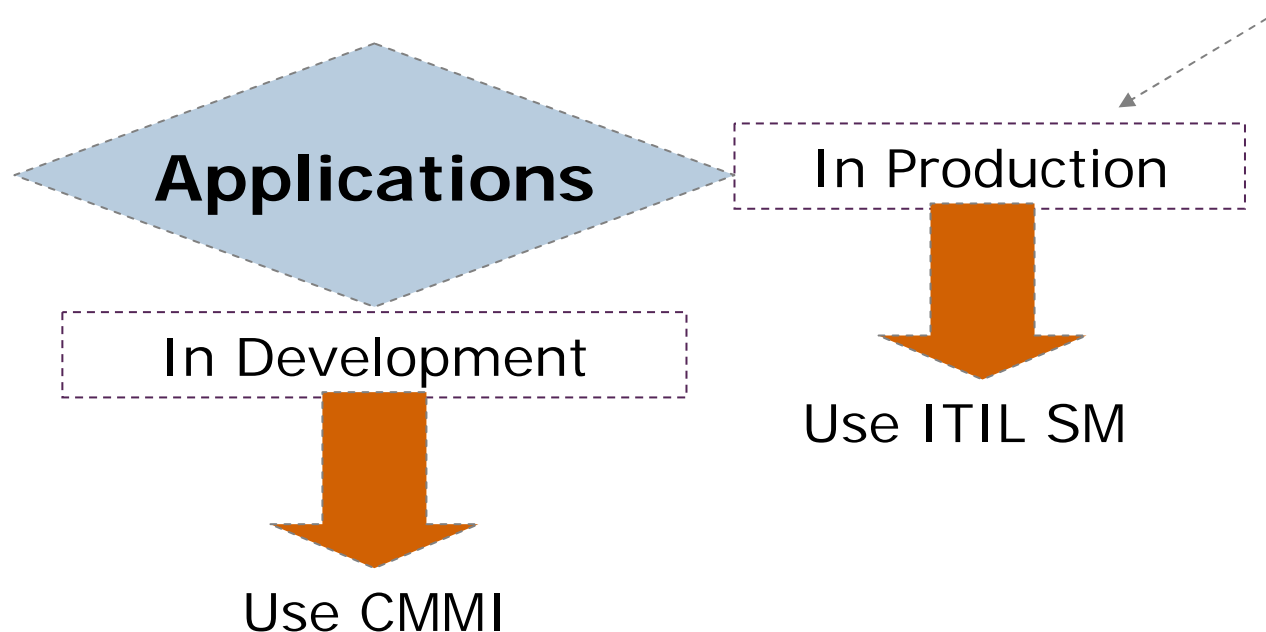
All
Roads
Lead to
ROMA



(Many ways to design ITIL-compatible processes: same destination)

Conclusions

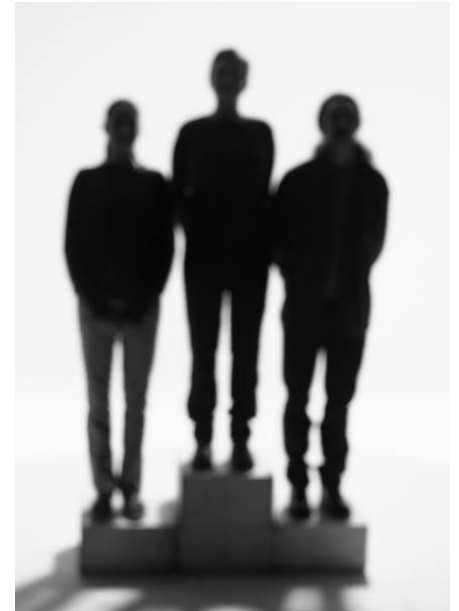
Proprietary technology is no longer a competitive edge, but how well you manage your IT in support of your business is the key – and this demands interoperability



We need to change the mindset that when you are an Application Development group that you always execute your own unique processes!

Benefits

- Integration enables and enforces standardized tooling
- Faster (business and IT) process development
- Exploit utilization of industry Best Practices
- Reduced confusion on performing level across functional towers
- Drives standardization in the role and template space
- Enables performance measurement across the applications life cycle



Call to Action

- Start to think about CMMI as part of a larger reference model family
- Do your BUSINESS a favor and take/make an integrated view of these models
- In the areas where you have strengths, use them; grow into the other model disciplines to build your capability, but leverage the strengths offered by the other models
- Consider expanding your CMMI-centric process system to include key enhancements that reflect ITIL SM & ITIL ICTIM requirements



Questions?



Contact Information

Ted Hayes

(916) 861 3233

Sacramento, CA

ted.hayes@eds.com

Bill Phifer

(610) 269 7931

Downingtown, PA

bill.phifer@eds.com

