hpUG
The Independent HP User Group

Dennis Adams associates

The HP User Group
in partnership with
Dennis Adams Associates Ltd.

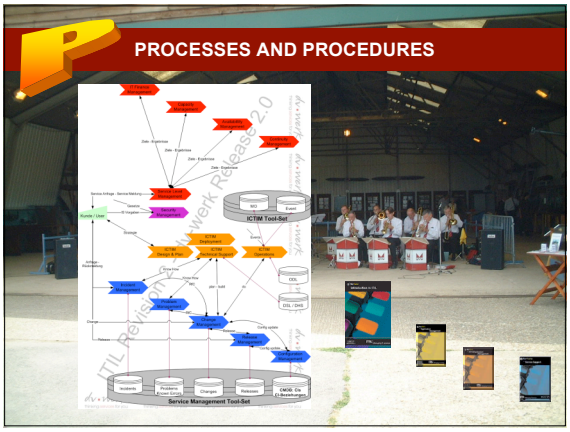
"Managing Production Systems: Fire-Fighting and MOPS"

January 2006

Agenda

09:30	Registration
09:55	Welcome – HPUG chairman
10:00	The challenges of managing IT Production then & now. The "MOPS" strategic approach.
11:00	Refreshment Break
11:15	Metrics and Operational Tools
12:30	Lunch
13:15	Processes, Procedures and Standards
14:15	Refreshment Break
14:30	Bringing it together – creating and implementing a Production Strategy.
15:30	Open Forum.
16:00	Seminar Ends

PROCESSES AND PROCEDURES



PROCESSES AND PROCEDURES

- **Advantages** of Process:
- SOX, CMMI, ISO 9001, ISO 10000-3
- Reduction in Costs
- Predictable, Repeatable, Auditable, Verifiable

- **Disadvantages:**
- Can become onerous
- Not always reflecting the need to be highly responsive.

- **Conclusion:**
- Deploy Processes which deliver value-add to IT Production and it's clients.

Improving the consistency of IT delivery

"Improving the consistency
of IT delivery
is a paramount consideration
for effective IT governance."

Iain Parker, The Boxwood Group

Source: Computing 1 September 2005

Auditing Processes and Procedures

- How do the existing processes and procedures facilitate the day-to-day running of IT Production, and it's relationship with the Business Sponsors and IT Development ?
- Processes should be in place to facilitate Deployment of Projects to live, upgrade, change controls processes etc.
- Also, processes to support the changes to Production Standards (hardware & O/S upgrades etc.) and procedures to ensure that IT Development work and Business Sponsorship is visible to the IT Production team.
- ITIL guidelines can be used to review this.
- Don't overload your teams with procedure, but use a pragmatic common-sense approach to deploy processes based on ITIL.
- Ensure you interface with Development Projects at the earliest possible phase.

ITIL, ISO & SOX

- The ITIL Library covers a number of IT management planning categories.
- The ISO 9000 and CMM (Capability Maturity Model) concentrate on having processes which are:
  - Consistent
  - Repeatable
  - Auditable
  - Verifiable.
- The recent US Sarbanes-Oxley Legislation also requires this
  - pressure on European companies to comply with SOX

Make use of these best-practices as a basis for designing IT processes.
At the same time, keep in touch with the practical, pragmatic issues involved with managing IT Production.

Definition of IT "Service"

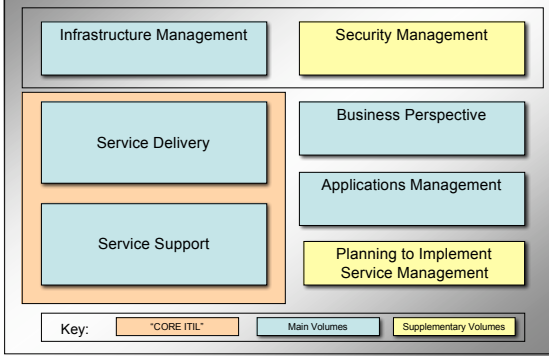
"An integrated composite
that consists of a number of components

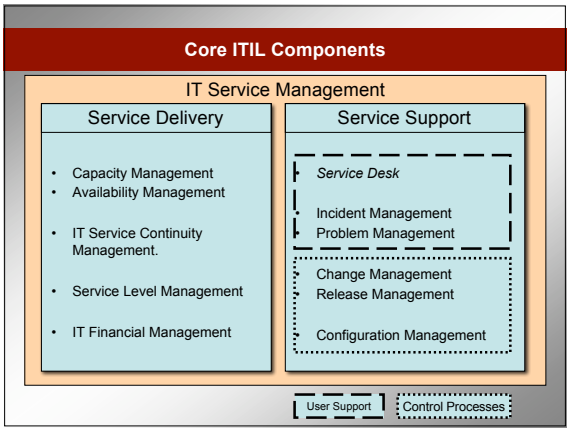
such as management processes,
hardware, software, facilities and people

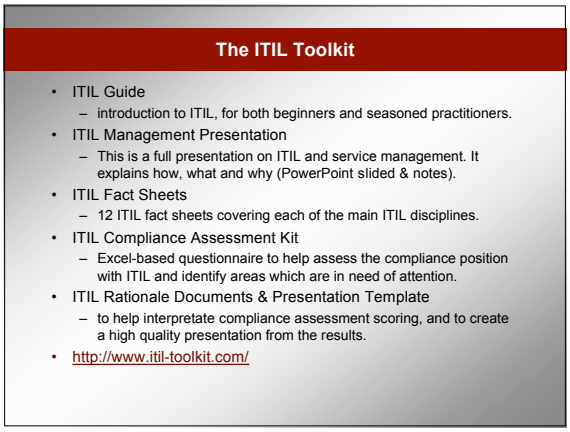
that provides a capability to satisfy
a stated management need or objective."

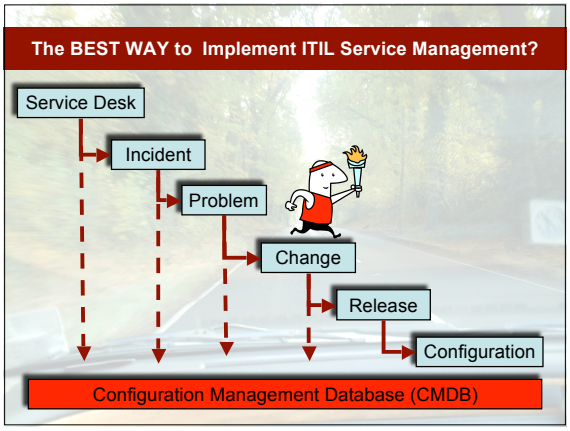
Dictionary of IT Service Management

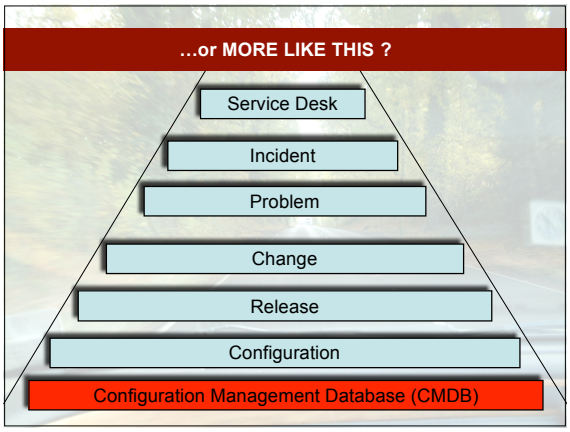
ITIL Components




Core ITIL Components
IT Service Management
Service Delivery
Capacity Management
Availability Management
IT Service Continuity Management.
Service Level Management
IT Financial Management
Service Support
Service Desk
Incident Management
Problem Management
Change Management
Release Management
Configuration Management
User Support
Control Processes

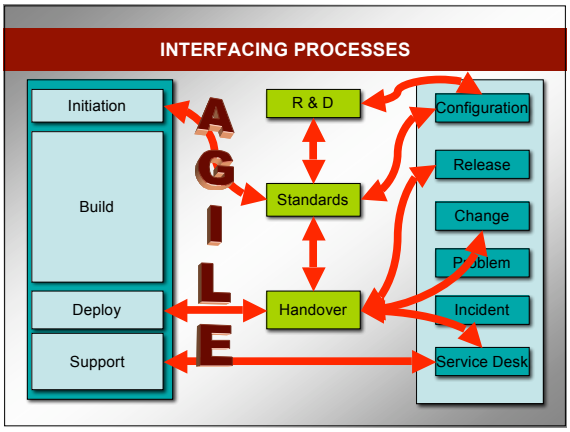

The ITIL Toolkit
ITIL Guide
introduction to ITIL, for both beginners and seasoned practitioners.
ITIL Management Presentation
This is a full presentation on ITIL and service management. It explains how, what and why (PowerPoint slided & notes).
ITIL Fact Sheets
12 ITIL fact sheets covering each of the main ITIL disciplines.
ITIL Compliance Assessment Kit
Excel-based questionnaire to help assess the compliance position with ITIL and identify areas which are in need of attention.
ITIL Rationale Documents & Presentation Template
to help interpretate compliance assessment scoring, and to create a high quality presentation from the results.
http://www.itil-toolkit.com/


The BEST WAY to Implement ITIL Service Management?
Service Desk
Incident
Problem
Change
Release
Configuration
Configuration Management Database (CMDB)



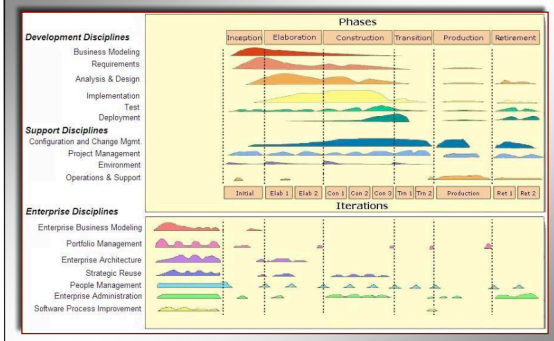
PROCESSES / PROCEDURES to IMPLEMENT

- ITIL Service Management provides a valuable **framework** within which to define your processes:
  - Service Desk, Incident and Problem Mangaement,
  - Change and Release Management
  - Configuration (Asset Management)
- In Addition, it is important to highlight the Process INTERFACES between IT Production and the outside world.
- Project Deployment, Handover.
- Involvement with Production at Project Initiation, linked to Standards
- Sponsorship of R&D within the Production team.



Interfacing to RUP / Agile Development

- "Enterprise Unified Process" by Scott Ambler, extended by Ronin International Inc.
- Extension to the IBM Rational Unified Process
  - Roles people fill
  - Activities to be performed
  - Artifacts to be created
- Covers Development / Operation and Support
- Also handles cross-system enterprise issues
  - Portfolio Management
  - Enterprise Architecture
  - Strategic Re-use
- NOTE: FROM A DEVELOPER'S PERSPECTIVE
- http://www.enterpriseunifiedprocess.com/



SUMMARY: Processes and Procedures

- ITIL
- Project Deployment, handover,
  - Service Levels
- Standards and Configuration Management
- Incident / Change
  - Managed Upgrade policy for technology (OS versioning)
- Involvement with Production at Project Initiation, linked to Standards
- Sponsorship of R&D within the Production team

Following Procedures ?

"Most IT organisations have processes and procedures for how services are delivered for both projects and operations.

Often these processes and procedures are codified

but not maintained or actively policed..."

Iain Parker, The Boxwood Group

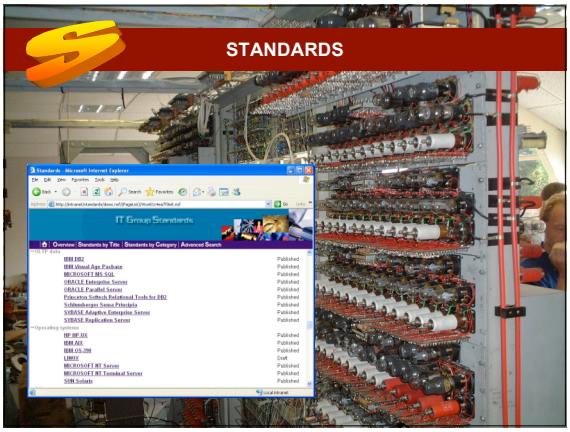
Source: Computing 1 September 2005

PROCESSES and PROCEDURES should:

- Facilitate the day-to-day running of IT Production, and it's relationship with the Business Sponsors and IT Development
- Facilitate rapid Deployment of Projects to live, upgrade, change controls processes etc.
- Enable changes to Production Standards (hardware & O/S upgrades etc.) and procedures to ensure that IT Development work and Business Sponsorship is visible to the IT Production team.
- Enable a clear interface with Development Projects at the earliest possible phase.

Don't overload your teams with Procedure.
Use a pragmatic common-sense approach.

STANDARDS



Why are STANDARDS so IMPORTANT?

- In some cases, the choice of Technology for a new Application can be driven by Developers' Choice:
  - Useful Development Tools ?
  - Design and Development Features ?
  - Familiarity ?
  - The desire to try out the latest technology ?
- Result: Applications whose Development costs may be Low, but the Support Costs may be high (even prohibitive).
- Defining IT Production Standards can redress this balance.
- Standards can contribute to controlling Costs of Maintenance & Support
- Simplicity = Economies of Scale in Support

Auditing of Standards

- Are there technical standards within IT Production against which developers should develop solutions?
- How are these Standards updated?
- What processes are in place for engaging with other technical teams to discuss emerging technologies?
- Is there a "menu" of standard technologies that developers must adhere to?
- Is there an "IT Production Assessment" function before deployment.
- Is there a systematic policy of technology upgrade, to ensure that costly systems are decommissioned when new ones are deployed?

HOW do you create STANDARDS?

- Establish a **Production Architecture** role
  - Define Production Readiness Criteria
  - Engage with Development
  - Publish Technology "menu" of Production Standards
- Developers and Business need to understand that these Standards represent the optimum support costs for Applications.
- Engage with Developers at Project Initiation.
- Configuration Baselines affect charge-back
- Template SLAs should reflect these Standards
- Establish processes for amending these Standards

Choice of Standards should depend upon whether or not a Technology is "Production-Ready"

Production Readiness Criteria

- The main criteria which determine whether an application or solution is suitable for IT Production use are :
  - Scalability
  - Reliability and Stability
  - Resilience
  - Backup and Recovery
  - Security
  - Monitoring and Management
  - Supportability

Production-Readiness Criteria

Terminology	Definition
Scalability	Can it can scale to the number of users / application instances etc. which may be required? As the number of end-users or application instances increases, how **much (proportionally) additional hardware etc. is required in order to deliver the extra capacity?** To what extent can the application be enhanced and expanded to adapt to possible future requirements?
Reliability and Stability	**Reliability** is concerned with the extent to which the application will deliver the expected results in a **consistent and repeatable fashion**, irrespective of changed load and/or changed environmental circumstances. **Stability** is the ability to be able to run unattended for **long periods of time** without operational intervention. Reliability therefore has to do with predictable, repeatable behaviour, whereas Stability has to do with repeatable behaviour over time.
Resilience	**Resilience** is the ability to **recover quickly from a failure of one or more components** that make up an overall system. Resilience assessment is concerned with how to implement Clustering mechanisms to guard against the possibility of failure of an Operating System, and how to ensure that there is no single point of failure within the architecture. Resilience also includes an assessment of how to implement Disaster Recovery mechanisms, and how to implement off-site recovery.
Backup and Recovery	**Backup** extends the idea of Resilience to look at how to respond to the **failure of all components.** This is typically implemented by using backup & recovery techniques. For example, failure of an entire data centre. Secondly, Backup can be used in order to **recover the system to a known state at a specific period of time**. One reason might be that some business logic (or dependant application) has resulted in corruption and it is necessary to go back in time to recover. A second reason may be to build an archive or historical copy of the application for the purposes of analysing historical trends, or setting up a test or development environment.
Security	**Security** concerned not only with the **security of the application** as presented to the end user (e.g. the ability to implement IP fire walls, packet filters etc.), but also with **isolation** of the Production Application from any development / test versions. For example, what is to prevent a developer from calling the Live Production business logic from within an application sub-net.
Monitoring and Management	One of the purposes of **monitoring** is to **pro-actively identify any adverse changes in the behaviour of the system** and/or it's environment, in order to take appropriate corrective action before the change impacts the business client. For this reason, "Monitoring by exception" is most appropriate. A second form of monitoring is **"trend analysis"**, the purpose of which is to extract time-series data in order to model the long-term behaviour of the system and to collate it against business trends for Capacity Planning purposes. **Management** is also another key role in IT Production. In this case, were are concerned with **how easy it is to amend or adjust the configuration of the application**, and adjust it's environmental behaviour. Such configuration should be as automated (and intuitive) as possible, in order to minimise IT Production costs for supporting the running application.
Supportability	**Supportability** is defined as the features which make the application or system able to be supported by a "Business as Usual" IT team. This is a general extension of the concepts of Monitoring and Mangement, above. The significant issue with the "Supportability" assessment is **whether the application can be supported at a reasonable cost.** In practice, this means ensuring that we can minimise the amount of manual intervention required to keep to application at its appropriate level of activity.

PRODUCTION-READY: Defined

- Scalability
  - As the workload increases, how much additional hardware etc. is required?
- Expandability
  - Can be adapted to possible future requirements?
- Reliability
  - Deliver results consistently & repeat ably, irrespective of changed circumstances ?
- Stability
  - Able run unattended for long periods of time without intervention?
- Resilience
  - Able to recover quickly from a failure of one or more components of the overall system?

PRODUCTION-READY: Defined (2)

- Backup
  - Able to respond to the failure of all components of the system?
- Recovery
  - Able to restore the system to a known state at a specific period of time?
- Security
  - Are Users authenticated and Authorized, and non-users Isolated?
- Monitoring
  - Able to pro-actively identify any changes in the behavior of the system?
  - Able to extract time-series data to model the long-term behavior?"
- Management
  - How easy is it to amend or adjust the configuration of the application, and it's environmental behavior?
- Supportability
  - able to be supported at a reasonable cost?

Production-Readiness Suitability Assessment

	Client	Presentation	Network 1	Business Logic	Transactional	Network 2	Persistence	
Scalability	5	4	5	5	4	4	5	32
Reliability and Stability	4	4	5	4	4	4	5	30
Resilience	5	5	4	5	3	3	5	30
Backup and Recovery	5	5	5	4	3	4	5	31
Security	3	3	5	3	4	4	5	27
Monitoring and Management	5	2	3	5	4	5	5	29
Supportability	5	4	5	4	4	5	5	32
	32	27	32	30	26	29	35	

Value	Meaning	Support Costs
1	Application or System is considered to be totally unsuitable for IT Production use.	Costs of support are likely to be prohibitively high if the application or system were ever introduced into IT Production.
2	This Version of the Application or System is considered to be unsuitable for IT Production use, but could be used for software development, and additional discussions with the vendor should be held in order to introduce required features in a future version.	Costs of support are likely to be very high if the application were ever introduced into IT Production.
3	Application or System is recommended for deployment into production with some additional customisation required by the client or vendor in order to improve supportability.	Costs of support are likely to be in line with costs for other applications of this type.
4	Application or System is suitable for Production deployment, with very little additional customisation required. The client can implement any such customisation, without any necessity for involvement from the vendor.	Costs of support are likely to be in line with costs for other applications of this type.
5	Application or System is suitable for Production deployment, with minimal customisation. The vendor has demonstrated a strong understanding of the principles of "Production Worthiness", which are reflected in the design and implementation of the product.	Costs of support are likely to be in line with, or less than, costs for other applications of this type.

IS a Solution PRODUCTION-READY?

"Simplicity remains one of SOAP's primary design goals as evidenced by SOAP's lack of various distributed system features such as security, routing, and reliability to name a few."

Understanding SOAP

Aaron Skonnard

MSDN, March 2003

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/dnsoap/html/understandsoap.asp

Creating Technical Standards

- Create and Publish the list of all technology types which ITP will currently support – OS versions, DBMS, J2EE, and also layered products and technologies – MQSeries, Apache etc. This must be tied into processes for changing this list
- Technical Standards lead to a consistent, managed, infrastructure, with reduced cost of support, to the benefit of the user departments.
- Standards should be linked to processes, so that they can be changed in dialogue with user requirements. This means that the IT departments move forward in a controlled way, reducing the cost of speculative "nice to look at" ad-hoc research.

How to approach STANDARDS

- Create Technical standards within IT Production against which developers should create solutions.
  - How are these Standards updated?
- Engage with other technical teams to discuss emerging technologies.
- Implement "IT Production Assessment" function before deployment.
- Put in place a systematic policy of technology upgrade, to ensure that costly systems are decommissioned.

Sometimes there are valid Business reasons for deploying solutions that are not perfect !

Agenda

09:30	Registration
09:55	Welcome – HPUG chairman
10:00	The challenges of managing IT Production then & now. The "MOPS" strategic approach.
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