EAM & ITSM convergence journey

David Riepsamen, Melbourne Airport

Ashley Jenkins, Kalibrate

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May 31 – June1
Sheraton on the Park Hotel, Sydney

Melbourne Airport's EAM & ITSM convergence journey
Agenda

- Introductions & background

- Business challenge

- Solution

- Approach

- Benefits

- Journey towards a Smarter Airport

- Q&A

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Melbourne Airport's EAM & ITSM convergence journey
Introductions

Kalibrate™

Ashley Jenkins

Engagement Manager &
IT Management Consultant

MELBOURNE AIRPORT

David Riepsamen

Business Analyst &
Maximo Support

Who are Kalibrate?
IBM business partner focussed exclusively on IBM Tivoli products. For many years Kalibrate has delivered solutions to organisations experiencing real issues in the management of critical assets & IT and has developed a reputation for excellence in solution delivery.
www.kalibrate.net

Blended team for success
Strong client participation, collaboration across business & IT is critical for initiative success!

CSF / Lesson Learned
Each critical success factor / lesson learned will be presented in a bubble such as this throughout the presentation

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Welcome to **Melbourne Airport**, Australia's only major **curfew-free** & single terminal airport – **operating 24 hours a day**

Figures for year ending 30 June 2011

28.19 million
Melbourne Airport passengers

↑**8%**
Passenger growth

250,000 tonnes
of international air freight

$**500+** million
Revenue

12,500+
People work at Melbourne Airport every day

11,000
Bags processed a day

Approx. **200,000**
Aircraft movements

225
Melbourne Airport employees

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Delivering a broad range of **asset-centric services**, the Melbourne Airport's **success** hinges on effective **Strategic Asset Management**

- In 1996, Maximo was implemented as the Strategic Asset Management (SAM) of choice
  - Maximo has subsequently been upgraded once from Version 4.11 to 5.2

- In 2004, a restructure and new Asset Manager revived business interest and sought endorsement to improve procedures, training & organisational buy in

- In 2007, Stage 1 and 2 of the Strategic Asset Management Project enhanced the functionality of Maximo to give Melbourne Airport Management the ability to
  - Better plan & track maintenance of assets
  - Record faults
  - System scope covering Airfield lighting, Civil Airside, Terminal and Outbuildings, and the baggage handling system

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By **2010**, **Maximo v5** was in real **need of an upgrade**, with the **potential** to **broaden & enhance** the **system** in a new program of work

- Melbourne Airport's existing core business system (Maximo v5) was
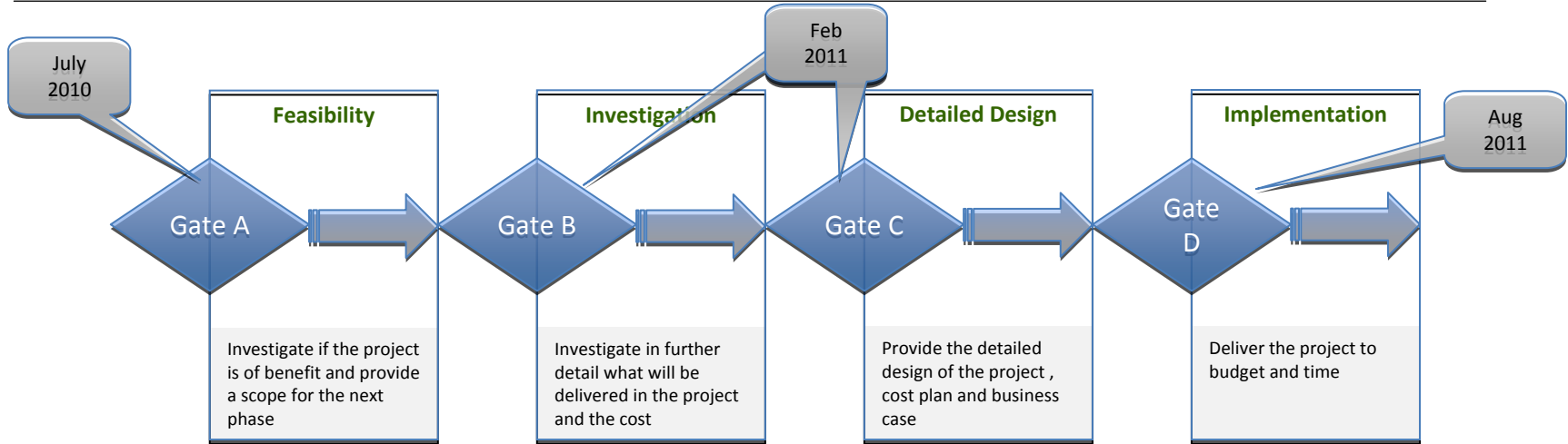 - Unstable
  - Unsupported
  - No longer met business requirements

- The existing IT system (Wega Touchpaper) was
  - Unreliable
  - In limited use
  - Not industry aligned
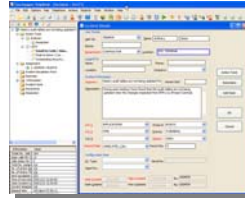
- The heterogeneous nature of these two ticketing systems was not conducive to business (landside, airside, terminal, engineering) and IT convergence

- Situation compounded by immature IT processes

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Melbourne Airport worked this challenge through their **investment 'gate' process** to assess, refine & shape an **implementation project**
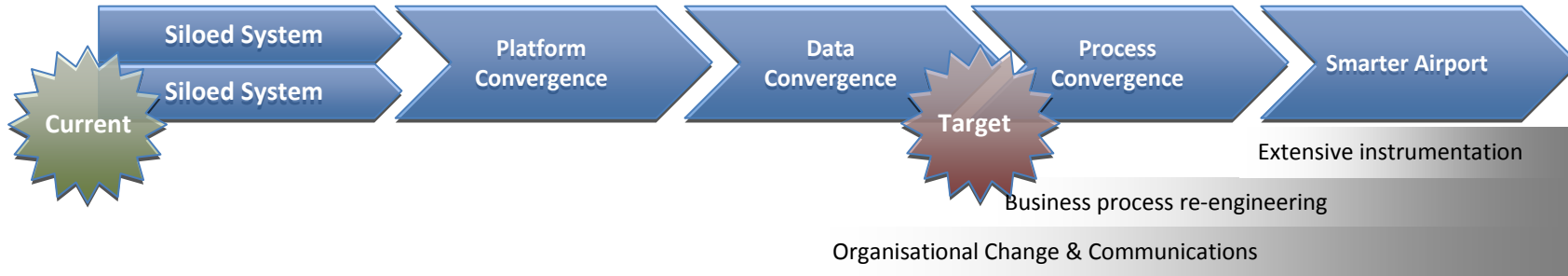
July 2010

Feb 2011

Aug 2011

Feasibility

Gate A

Investigation

Gate B

Detailed Design

Gate C

Implementation

Gate D

Investigate if the project is of benefit and provide a scope for the next phase	Investigate in further detail what will be delivered in the project and the cost	Provide the detailed design of the project , cost plan and business case	Deliver the project to budget and time

Final Objectives

- **Upgrade Maximo** - Version 5 to standard version 7, update infrastructure platform, document configurations, streamline operational management, migrate reports to BIRT
- **Achieve business improvements from Maximo 7** - Streamlined business processes, increased quality & controls, ease of use, external system integrations
- **Integrate IT Service Desk** – Integrate & mature core ITIL processes on Maximo, self service portal, service catalogue, external system integrations

Our **Business & IT convergence thinking evolved** during this process with agreement to not impact the EAM side of the business

Current → Siloed System / Siloed System → Platform Convergence → Data Convergence → **Target** → Process Convergence → Smarter Airport

Extensive instrumentation

Business process re-engineering

Organisational Change & Communications

Key convergence principle

- **Principle: Minimise impact to the business**
  - Not a business process re-engineering exercise
  - Business processes to stay essentially the same
  - Datasets ok to converge where it makes sense

- *Key Implication: IT must fit into Business processes*
  - Where adaptation is required, minimise business change by modifying IT's processes/procedures
  - IT better equipped to adapt than the business

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Maximo was **upgraded & enhanced** to support **the Airport Coordination Centre (ACC), Landside, Terminal, Airside, Engineering**
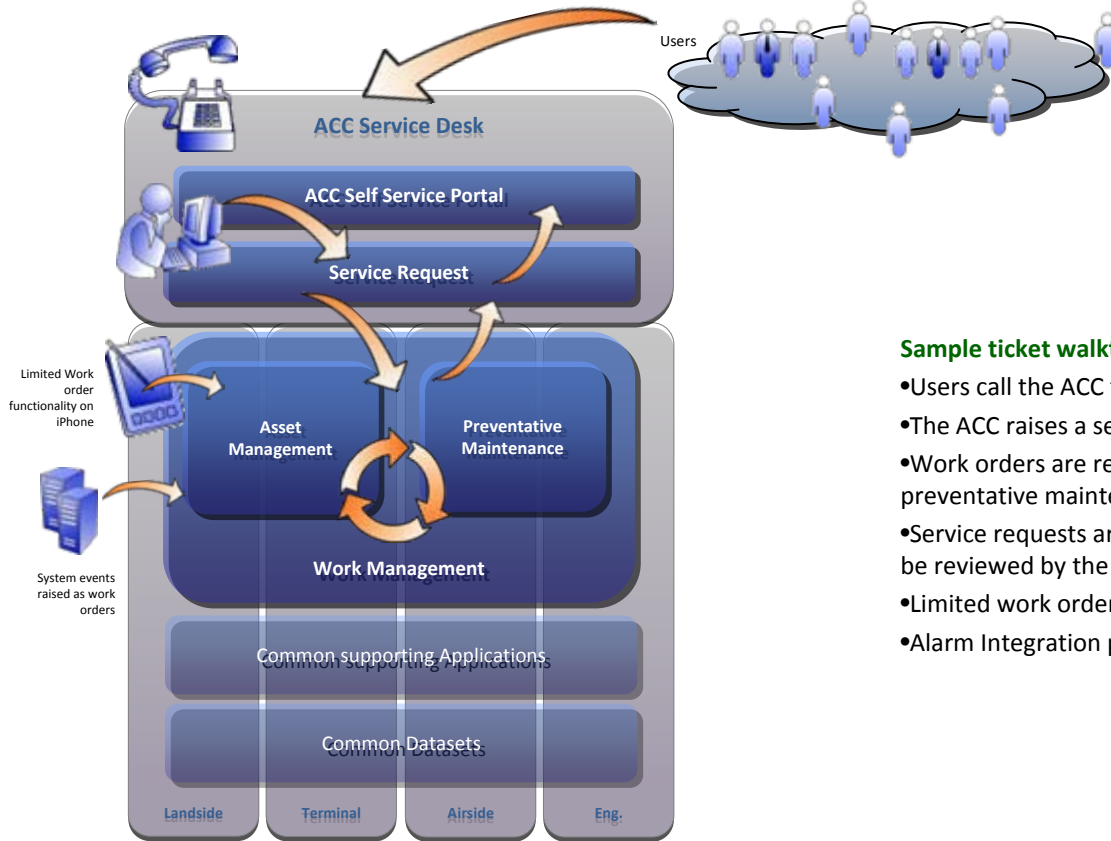
Business solution
Portal functionality, Service Requests, Work Management, Asset Management, Mobile capability (Fault triage & supervision), SMS & e-mail alerting, BMS & SCADA integrations

Sample ticket walkthrough

- Users call the ACC to log a fault
- The ACC raises a service request, and allocation is driven by classifications
- Work orders are released to the appropriate group for execution (including preventative maintenance)
- Service requests are automatically updated with basic information which can be reviewed by the ACC or via the portal
- Limited work order functionality is available from mobile devices (iPhone)
- Alarm Integration provided for BMS and SCADA systems

Maximo also provides **ITIL aligned process automation** for the **IT Service Desk & IT**

IT solution

ITIL aligned incorporating
Request Fulfilment, Incident Management,
Problem Management, Change Management,
Knowledge Management,
Self service portal, IT Service Catalogue

Sample ticket walkthrough

• Users call the IT Service Desk or lodge a ticket on the self service portal

• The IT Service Desk raises a service request (via the request fulfilment process)

• The IT Service Desk also has the ability to raise an incident, problem or change

• Requests, incidents, problems and changes are then resolved / executed via workflow

• Incidents are also automatically raised by other IT monitoring systems

IT Service Desk

IT Self Service Portal

Request Fulfilment

Incident Management

Problem Management

Change Management

Common Supporting Applications

Common Datasets

IT

System events raised as incidents
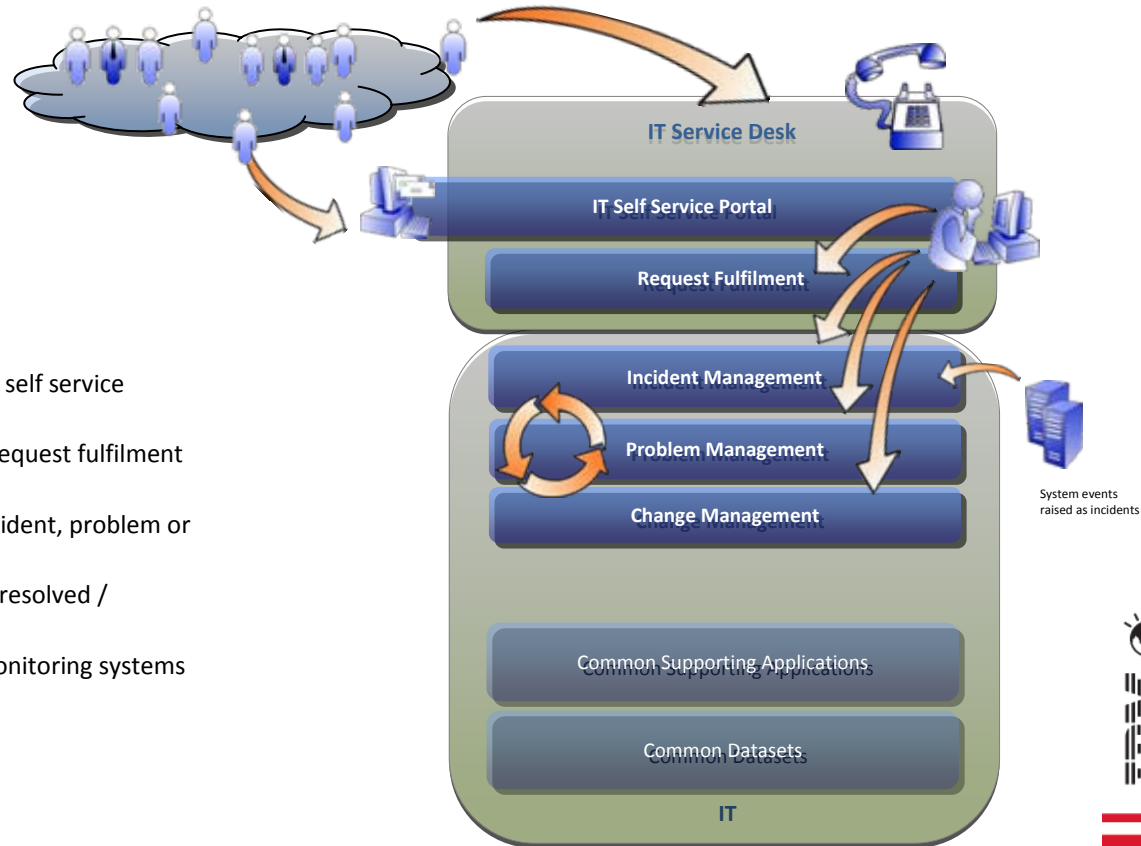
Bringing the solution together – An **converged EAM & ITSM** process automation **solution for the Business & IT**

Users

ACC Service Desk

- ACC Self Service Portal
- Service Request
- Asset Management
- Preventative Maintenance
- Work Order Management
- Common Supporting Applications
- Common Datasets

Landside Terminal Airside Eng.

Limited Work order functionality on iPhone

System events raised as work orders

Independent Self Service Portals

ACC specific SR process

Business specific Work Order process

IT specific Service Request, Incident, problem, change processes

Common WO Process

Common...
- Asset application
- Locations

Common...
- Classifications
- Priorities

- Assets
- Person Groups
- Sites

IT Service Desk

- IT Self Service Portal
- Request Fulfilment
- Incident Management
- Problem Management
- Change Management
- Work Order Management
- Common Supporting Applications
- Common Datasets

IT

System events raised as incidents

14

The solution is delivered via a **single instance of Maximo**, with **virtualised infrastructure** and a **shared database**

Architecture Overview

- 2 x Maximo WebSphere nodes (UI, Integration)
- All servers virtualised (VMware)
- Shared MS SQL database
- All inbound integrations via email
- Active Directory 'pull' for authentication & users
- Email communications via MS Exchange
- External access via MS Threat Management Gateway

Product Set

- IBM Maximo Asset Management (MAM) 7.1
- IBM Maximo Everyplace 7.1.0
- Tivoli Service Request Manager (TSRM) 7.2.1.0
- Tivoli Change & Configuration Management Database (CCMDB) 7.2.1.0
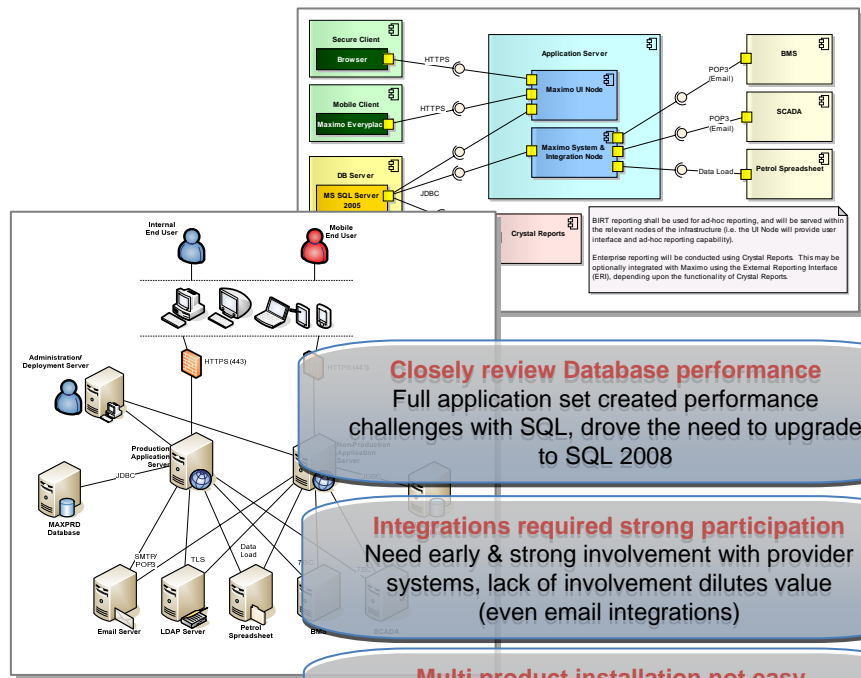
Closely review Database performance
Full application set created performance challenges with SQL, drove the need to upgrade to SQL 2008

Integrations required strong participation
Need early & strong involvement with provider systems, lack of involvement dilutes value (even email integrations)

Multi product installation not easy
Getting all applications installed was more problematic than anticipated (MAM, TSRM, CCMDB, Everyplace)

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Implementation spanned **6 months** with a **successful 'big bang'** migration & **go-live mid February 2012**

	2011					2012	
	August	September	October	November	December	January	February

Key milestones

⭐ 1st August
Project Commencement

⭐ 12th September
Data gathering complete

⭐ 4th November
Development Complete

⭐ 16th December
UAT complete

⭐ 27th January
Rehearsal & go/no-go decision

⭐ 15th February
go-live

Realisation

- ITSM process validation & data gathering
- EAM data gathering
- Design elaboration
- Application Development
- Integration development
- Data transform development
- Report development
- Functional test
- System Test
- UAT

Change Freeze

Team break

Deploy

Training

Go-live

Close

Broad UAT participation critical
Full participation from across all segments of the business critical to draw out all bugs

Good PM disciplines really do help
Strong & collaborative project management (risk management in particular) helped navigate to the outcome

Co-location of teams accelerates performance
Co-location of the team critical to success, we secured a war room for the full team

Don't underestimate organisational change
People need to be brought on the journey with large system changes, had challenges with one group in particular

Go-live involved an **upgrade & migration of Maximo v5** and the **cutover of Touchpaper** in a tightly planned **Deployment Window**

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Quantitative benefits take time to measure
System has been live for only 3 months, most benefits are qualitative at this stage

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Targeted, accessible information drives **improved responsiveness** from **operations**

Airport Coordination Centre (ACC)
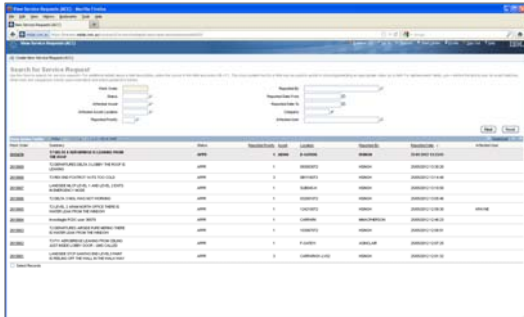
Complete view of all fault tickets/ requests in play, giving a 'flight deck view' of Airport status

Receives IT updates via bulletin boards

Business Managers / Supervisors
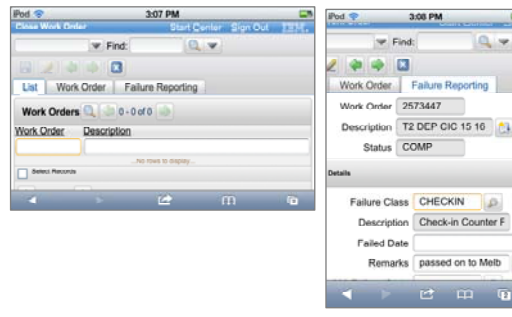
iPhone mobile views, for ticket triage & completion review, allows for rapid management intervention & direction whilst in the field

Information Technology
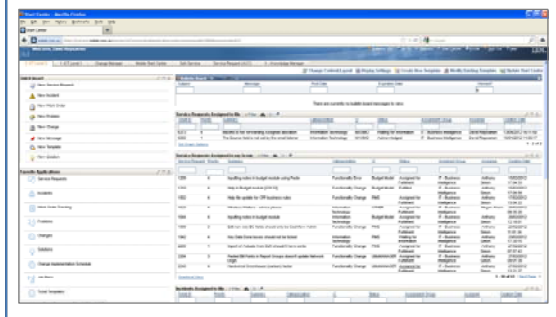
Full view of all faults regardless of origin (Business, IT, system generated), views available for ...

Start centre performance optimisation critical
IT start centres present substantial information, query tuning critical for good performance

Everyplace mobile is a journey
Previous failed mobile solutions drove the team to start small & gain buy-in
Screens took some time to configure

Providing the right information, to the right consumers, at the ...

Streamlined & transparent business processes **drive improvement** in **Key Performance Indicators – less reactive, more proactive**

Faults
Number of faults logged & resolved
(approx. trend information only)

Preventative Maintenance (PM)
Number of PM's completed
(approx. trend information only)

Australia Pacific Airports

MA – Workorder Performance Report by Supervisor Group

Tivoli. software

Faults - 13 Month Summary
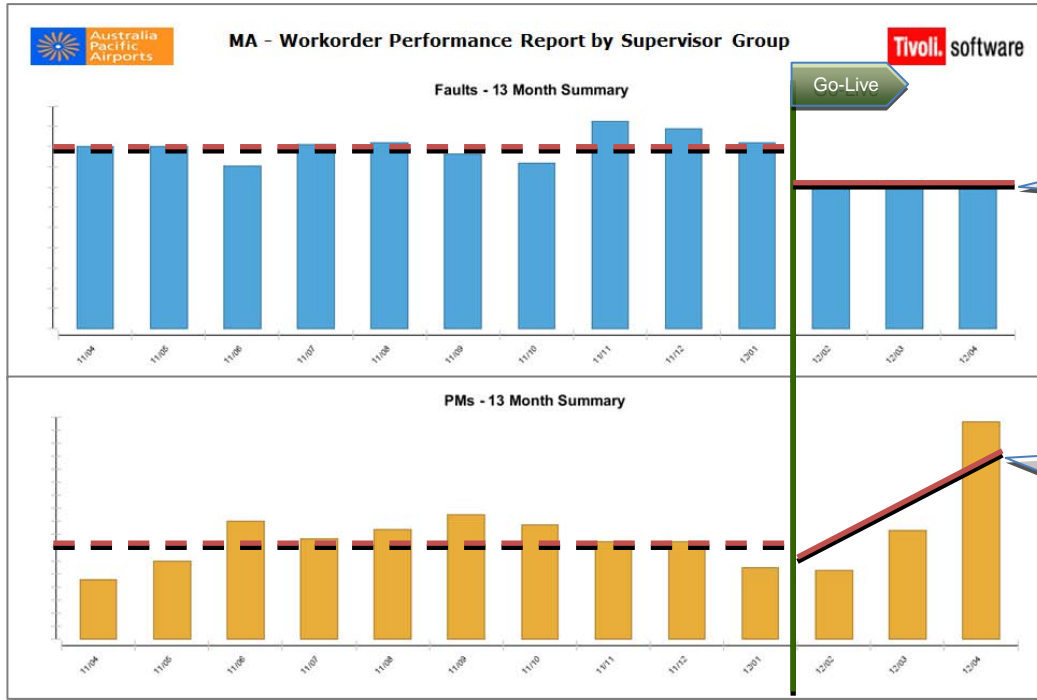
Go-Live

Volume of reactive Faults has dropped since go live…

PMs - 13 Month Summary

…supported by a corresponding increase in the volume of proactive Preventative maintenance

Process visibility & management QA help drive outcomes & improve accountability

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Standardised, industry aligned processes **improves** the **efficiency & consistency** of **IT service support**

Processes
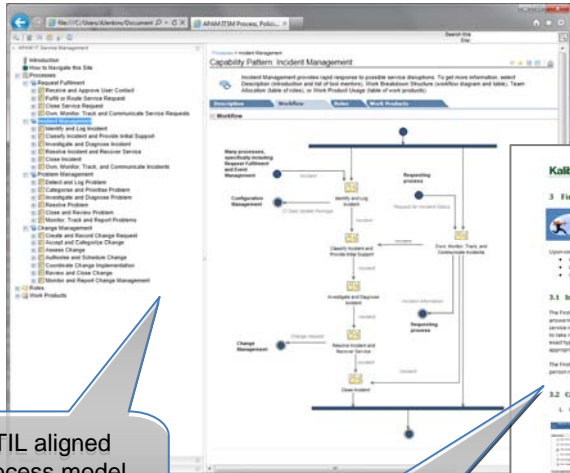
Procedures

Automation, views & KPI's

Change Management a big winner, previously paper-based

ITIL aligned process model with improved maturity posture

Standardised 'way of doing things' replaces ad-hoc system

Knowledge Management & knowledge manager role embedded in all processes

OOTB ITSM processes not used
Didn't use out of the box processes, used previously developed ISM overlay (process, roles, data)

Drives repeatability, efficiency & continuous improvement in IT ops

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Single process handling 'intelligent assets' leads to Improved MTTR for faults spanning the business & IT

'Intelligent asset'
IT shared assets, maintained by the business as first response, eg;
Flight information display system (FIDS)

Faults MTTR
Average time to complete (resolve) a given fault
(trend information only)

Average Mean Time to Complete
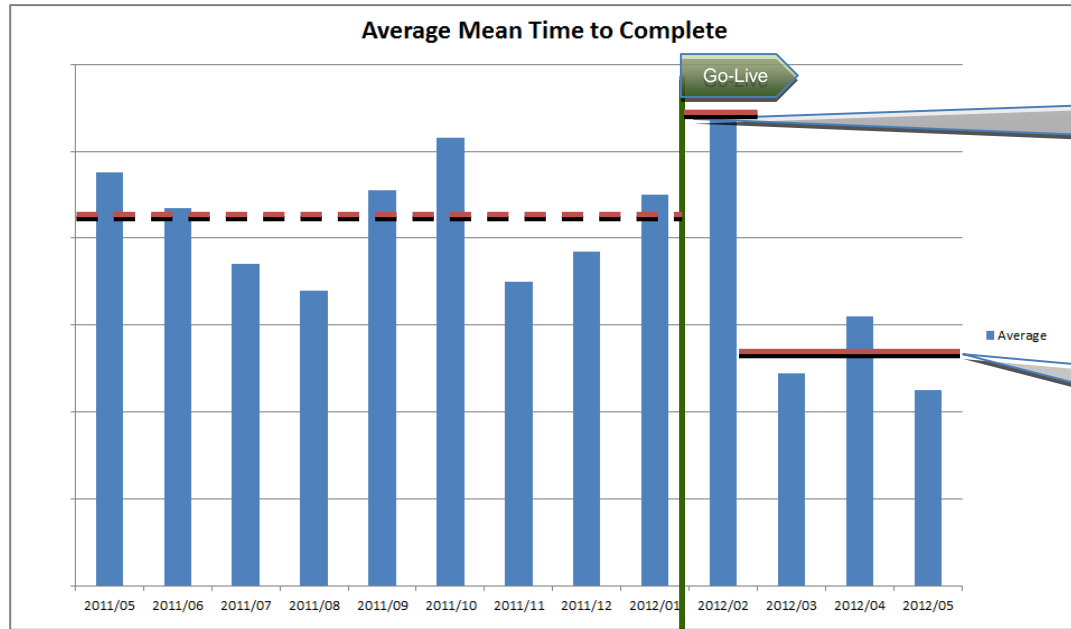
Go-Live

Bulge across go-live (ouch!)…

…followed by significant improvement

Average

2011/05 2011/06 2011/07 2011/08 2011/09 2011/10 2011/11 2011/12 2012/01 2012/02 2012/03 2012/04 2012/05

Build cross-organisational capability with common classifications, resolver groups, KPIs

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Self service portal empowers users to perform basic IT requests & support, **freeing up IT** for **higher value** tasks

…Troubleshoot common issues…

Users can…
Log requests…

…View system status…

…View personal request & incident status

Empowers users as the new IT level 1, reduce the load on IT

Promote portal to drive uptake
It takes time to educate users on all portal functionality

IT Service Catalogue **streamlines end-to-end** repetitive manual process

Self service ordering of basic IT catalogue items

- Phones
- Desktops / Laptops
- RSA tokens & remote access

configuration and provisioning details included in workflow

Manager drawn from Active Directory for approvals

Automated workflow models facilitate process

Facilitates end to end process from order -> installation

Technology is easy, service catalogue items are hard
Defining a full service catalogue is an engagement in itself, start small & well bounded

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Single data repository provides **improved business intelligence** for **decision support**

- Single source of truth for person, asset & fault data across the business

- Data feeds include SCADA, BMS, IT Monitoring & event management systems, Active Directory, Petrol usage data

- Historical Maximo v5 data was transformed & migrated

- Wega Touchpaper data was also migrated

Enables extensive data mining & trending, consolidated b
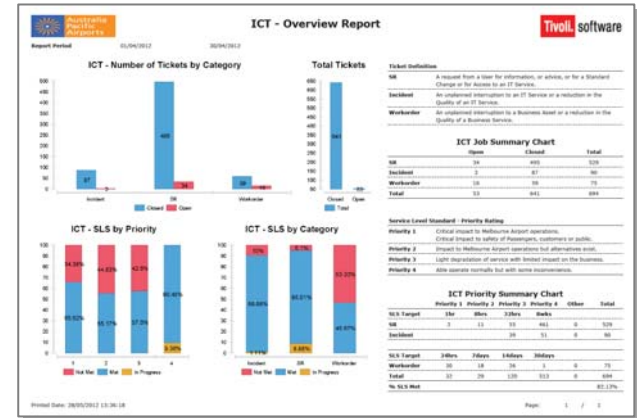
Avoided the migration of live IT tickets
Didn't try to migrate active Touchpaper tickets into the new system, avoided inserting tickets into active workflow. Clean-up before you migrate

OOTB reports not used
Due to converged nature of the solution, all reports had to be constructed, out of the box didn't assist

System consolidation **optimises** enterprise systems **maintenance & support**

- Consolidated, virtualised & shared
  - Maximo v7 replaces two enterprise systems (Wega touchpaper, Maximo v5)

- Single maintenance stream

- Single administration & support skill set

- Improved user support & training capabilities for Maximo Asset Management
  - IT more able to support EAM / business (common interface)
  - IT are enabled and familiar with core business system
  - Simplification of training needs
  - More able to provide assistance and support at L1

Provide training material with re-use value
CBT based delivery with files available from intranet provide long lasting value

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We have established the **foundation** of a **smarter airport**, where could this **journey take Melbourne Airport**?

Siloed System	Platform Convergence	Data Convergence	Process Convergence	Smarter Airport
Siloed System				

Current

Target

INTERCONNECTED
People, systems and objects can interact with each other in entirely new ways.

INSTRUMENTED
New abilities to measure, sense and see the exact condition of everything.

INTELLIGENT
Processes can respond to changes quickly and accurately optimise for future events.

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The building blocks are in place for **potential integration up the value chain between the business & IT…**
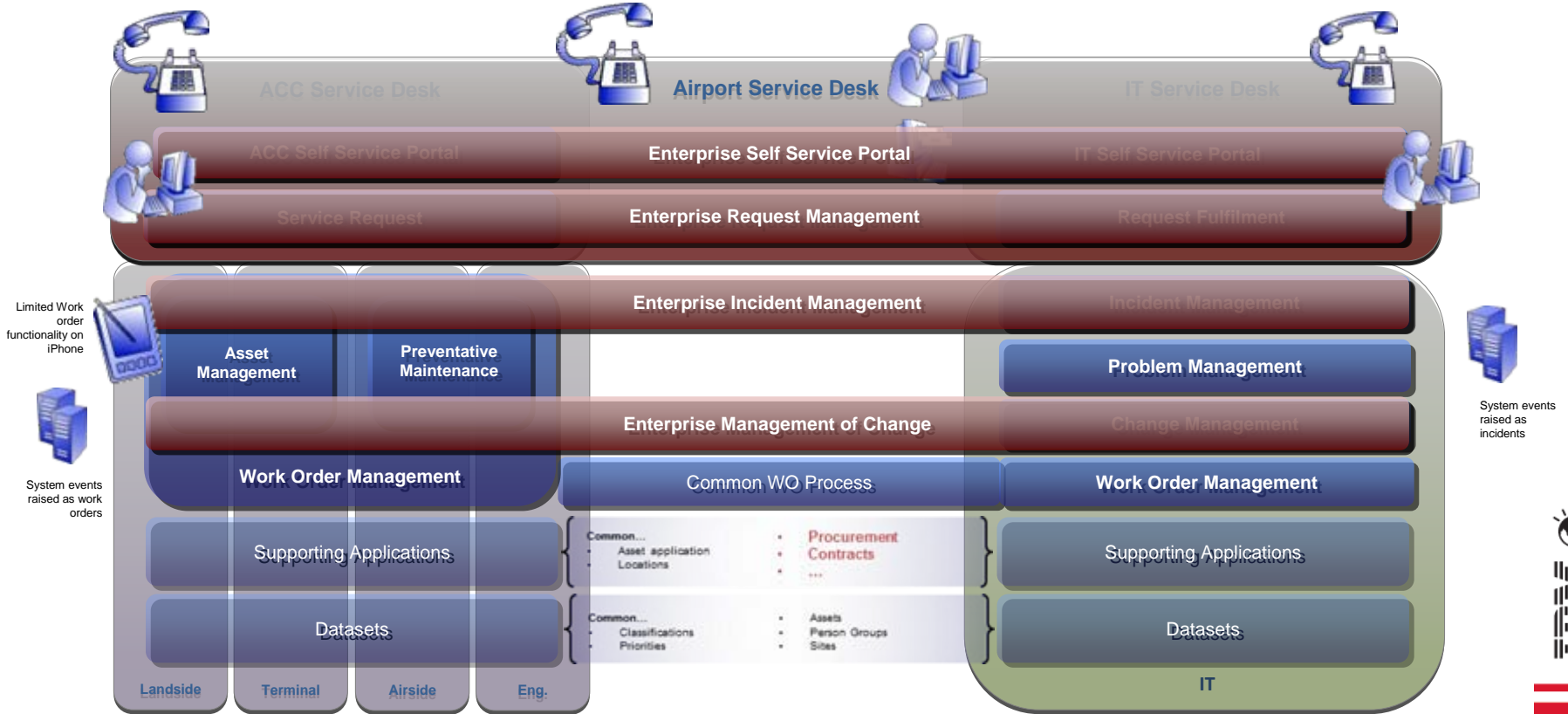
…as well as horizontal expansion to **extend the reach** of the **'system of systems'**

Real Estate & Facilities Management

Spatial awareness for Airside & Civil

IT discovery & configuration management

Expanded mobility coverage & capability

Melbourne Airport… *ready for take off!*

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We **hope you enjoyed this presentation** as much as **we enjoyed sharing our story**!

MELBOURNE AIRPORT

Questions?

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