Service Design and the Service Catalogue
(A practical approach − case study)

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Colin Rudd **CITP, FISM, FBCS, FIITT, CEng**

ITIL V3 Lead Author

Former Director of *it*SMF International

Director of *it*SMF UK

colin.rudd@itemsltd.co.uk

ITIL V3 – A case study

- A FTSE 100 company

- Mature IT Service Management processes

- Already achieved ISO/IEC 20000 certification

- Two major data centres

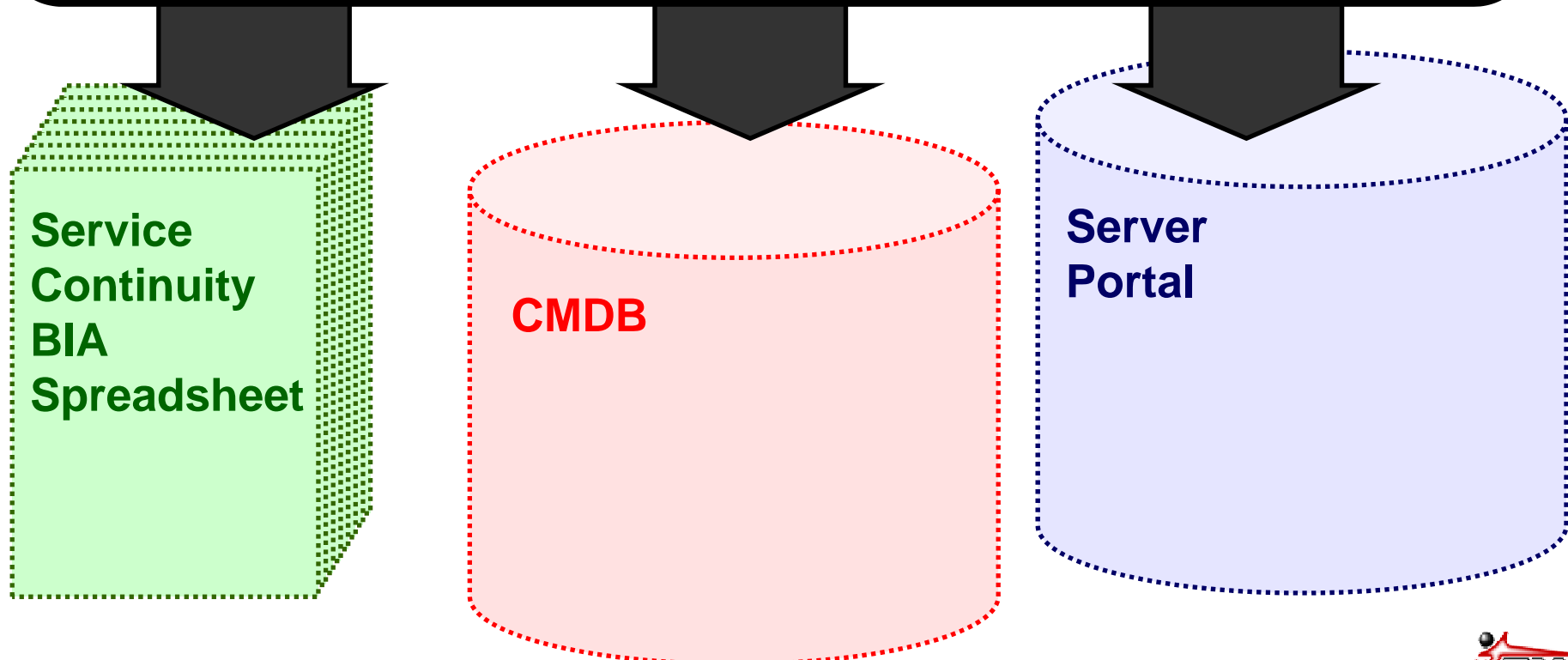- Over 1,000 servers of different sizes, principally HP and Sun

Current situation

Agree Service Catalogue:
- Agree set of business facing services
- Common services and common names
- Common service criticality classifications
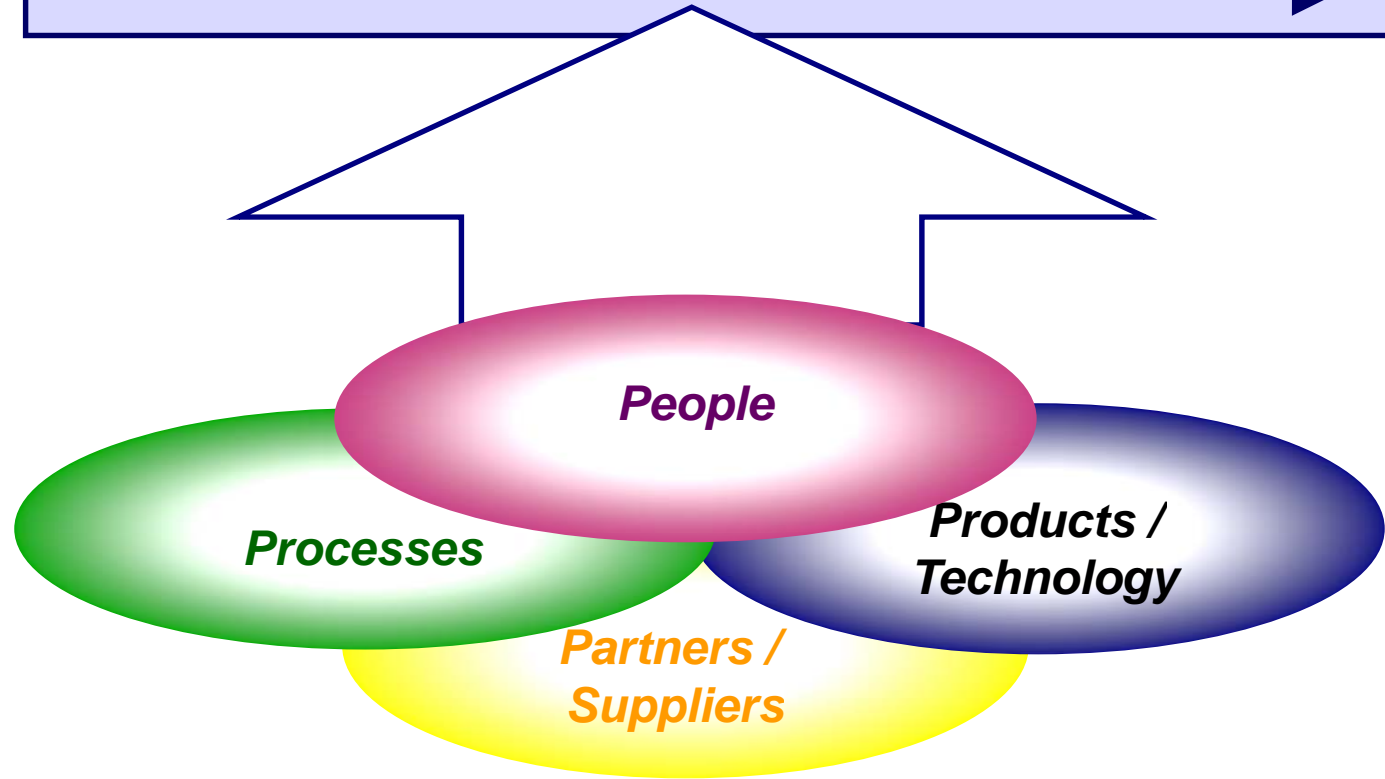- Service design criteria based on criticality

Service Continuity BIA Spreadsheet

CMDB

Server Portal

Service Acceptance - The current situation

- *Seen as an add on*
- *Bureaucratic and a hindrance to projects:*
  - *– over 30 acceptance criteria areas*
- *Hard copy document sign off*
- *Manually intensive*
- *Process abused*
- *Not always completed – Project Manager moved onto the next project*
- *Problems with "early life support"*
- *Every project had to get sign-off of all criteria*
- *Many support teams only engaged at "Service Acceptance"*

Business Process Change → Business Requirements & Feasibility → Business Process Development → Business Process Implementation → Business Benefits Realisation

IT Service Requirement

IT Service

IT Service Lifecycle

People

Processes

Products / Technology

Partners / Suppliers

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Business Service Management

Business service A

The requirements/demand:

| Business Process 1 | Business Process 2 | Business Process 3 |

IT Service

Policy/Strategy Governance Compliance

The utility:
Name, description, purpose, impact, contacts, ….

The warranty:
Service level, targets, service hours, assurance, responsibilities, ….

SLAs / SLRs

The assets/resources:
Systems, assets, components, ….

...ronment | Data | Applications

The assets/resources:
Process, supporting targets, resources, ….

OLAs Contract

IT Processes

The assets/resources:
Resources, staffing, skills, ….

Support Teams

Suppliers

Business Require-ments → **Business Require-ments** → **Business Require-ments** → **Business Require-ments**

Warranty period **Live operation**

Design and development

Project (Project Team)

SAC ✓   SAC ✓

Document & agree business requirements | **Design service solution** | **Develop service solution** | **Build service solution** | **Test service solution**

Improvement

Transition

Transition & Operation

Operation

SLA Pilot   *SLM*   SLA Live

...st, Release and Deployment Management

Change Management:

| RFC raised | Approved for design | Approved for development | Approved for build | Approved for test | Approved for "warranty" | Approved for Live release | Review & closure |

Common service classification

Business Facing services:

- **Data centre services live (Production):**
  - *e.g. Website.com, Call Centre, SAP R3, Central Desktop etc..*
- **Local desktop services:**
  - *e.g. Office, Adobe, SAP Client, Telnet, Exceed, etc…..*

Non-business facing services:

- **Functional services:**
  - *e.g. Web server farm, CTI, Gensys, etc........*
- **Supporting services (Impacting)**
  - *Infrastructure services, SAN, Network, etc............*
- **Supporting Services Others (Non-impacting):**
  - *e.g. Development, Test, Management systems, Support, etc..)*

Agreed approach

- **Common naming standards for services**
- **All services categorised using standard categories:**
  - *Business facing service*
  - *Supporting service*
- **Common "corporate" service classification:**
  - *Critical, high, medium, low, none*
- **Common server classifications**
- **Identify "the gaps"**

Common service criticality weighting

Based on:

Public service x Criticality x No of Users x Dept. Weighting

- *Public service:*
  - Public service (x100), Non public service (x1)
- *Perceived "business impact" / "Criticality":*
  - Critical (x100), High (x50), Medium (x30), Low (x10), None (x1)
- *Number of users:*
  - Multiply by the number of users
- *Department weighting based on product /service revenue:*
  - Revenue generation (x5)
  - Supporting revenue generation (x3)
  - Non-revenue generating (x1 - e.g. strategic development)

Server classification

– *Physical COD (Capacity On Demand): – ability to split the server into electrically isolated domains. Create Virtual Domains and move resources dynamically between them.*

– *Hot Swappable: - Components can be added / removed within the server without interrupting service.*

– *No SPOFs: - No single components, everything is replicated.*

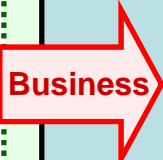| Physical COD	Hot Swap			No SPOFs
	CPU / Memory	Power / Network	Disks	
2	2	2	2	2
1	1	1	1	1
0	0	0	0	0

Gold: equal to 10
Silver: between 5 & 9
Bronze: less than 5

Note: 2= Fully implemented, 1= Partially implemented, 0= not implemented

Service Continuity
Business facing services

Data Centre
Website.com *(Critical)*
Call Centre *(Critical)*
SAP R3 *(High)*
SAP CRM *(High)*
Email
Central Desktop
etc……

→ **Business**

Local Desktop
MS Office
Adobe
etc……

Functions
Web farm *(Critical)*
Search *(Critical)*
OnlineBuy *(Critical)*
Banners *(High)*
Content Mgt. *(High)*
etc……

Supporting
Network *(Critical)*
Telephony NW *(Critical)*
SAN *(Critical)*
Dev, Test, Staging,
QA, Training, etc..
…

Rules (based on):
Public facing
No of users
Business process & revenue impact
(Critical, High, Medium, Low, None)

Server Portal

Server (Current) classification
Brake *(Bronze)*
Clutch *(Bronze)*
Bumper *(Bronze)*
Drum *(Bronze)*

Server (Want) classification
Brake *(Bronze)*
Clutch *(Bronze)*
Bumper *(Bronze)*
Drum *(Bronze)*
…
…
…
…

Compare and R A G
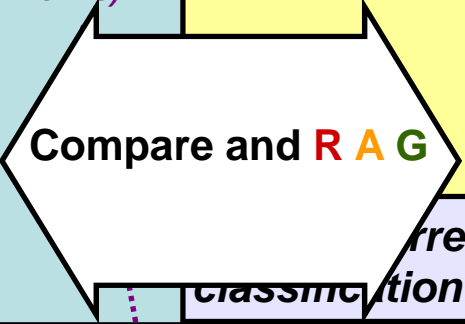
(Current) classification
Crete *(Silver)*
Cayman *(Silver)*

Server (want) classification
Crete *(Silver)*
Cayman *(Silver)*

Rules (based on):
Service criticality
Infrastructure resilience
Reliability
…
(Gold, Silver, Bronze)

Design criteria - Based on service criticality

- ***Critical: Continuous availability*** *(target: **99.95%**-restoration instantaneous)*
  - *Resilience to all single component failures and some multiple failures, all components and data (synchronously) dual located, continuous operation, resilience to network failure, server failure, site failure, power, application (instance) and AHU failure, no service outage for maintenance or upgrades, COD and hot swappable kit, no data loss*

- ***High: High availability*** *(target: **99.9%**-restoration 15 minutes)*
  - *Resilience to all single component failures, automatic failover (minimal downtime), dual located components and data (asynchronously), resilience to network failure, server failure, site failure, power, application (instance) and AHU failure, no service outage for maintenance, limited service outage for major upgrades, maximum data loss 15 minutes*

- ***Medium: Availability/partial resilience*** *(target: **99.7%**-restoration 4 hrs)*
  ....

- ***Low: Availability / limited resilience*** *(target: **97%**-restoration 2 days)*
  ....

- ***None: No resilience*** *(target: **95%**-restoration 2 weeks)*
  ....

Service Design rules developed

- ***Design based on the criticality of the service and the target level of availability:***

  - *Critical-Continuous:*
    - Dually located (two sites) – load balanced
    - At least "n+1" resilience throughout, including site and application
    - If only two components at least "silver", preferably "gold"
    - Design principally for availability, not recovery
    - Synchronous data replication
    - Software – resilience to instance failure
    - Frequent availability testing etc…….

  - *High-High:*
    - Dually located – automatic fail-over
    - At least "n+1" resilience throughout
    - If only two components at least "silver"
    - Design for availability and recovery …………………...

Initial analysis of services

Service type	Number	Percentage
Business facing	96	18%
Desktop	146	27%
Supporting	114	21%
Dev, test, QA, ….	54	10%
Duplication	122	23%
Total	532	

Service type	Number
Critical	22
High	8
Medium	9
Low	0
None	0
Total	39

Issues:
Some services and servers unknown /under matched
Over 50% of the business facing services are critical

Server resilience	
Over	
Match	464
Under	164
To be confirmed	234
Total	1012

Matched	12	10
Under	4	4
None	19	5
To be confirmed	4	3
Total	39	22

Service acceptance - Reviewed and revised

- *Projects designed to achieve acceptance from the start*
- *Automated and modular*
- *Without service acceptance, projects remain in project status as the responsibility of the Project Manager*
- *With Service Acceptance, a project will be accepted into BAU operation and support*
- *Exceptions must be owned, documented and agreed*
- *Service acceptance, introduced at the initial project meeting, and used through the whole project lifecycle, reduced number of criteria, modular, automated, ...*

Revised service criticality weighting

Corporate service criticality =

Public x Users x Dept. criticality x revenue x product

- *Public service:*
  - Public service (x10), Non public service (x1)

- *Number of users:*
  - > 2,500 (x5), > 1,500 (x4), >1,000 (x3), > 100 (x2), < 100 (x1)

- *Departmental "business impact"/"Criticality" from BIA:*
  - All depts. (x5), Half (x4), 2 or more (3), 1dept. (x2), no depts. (x1)

- *Revenue impact:*
  - Direct impact (x3), indirect impact (x2), no impact (x1)

- *Product impact :*
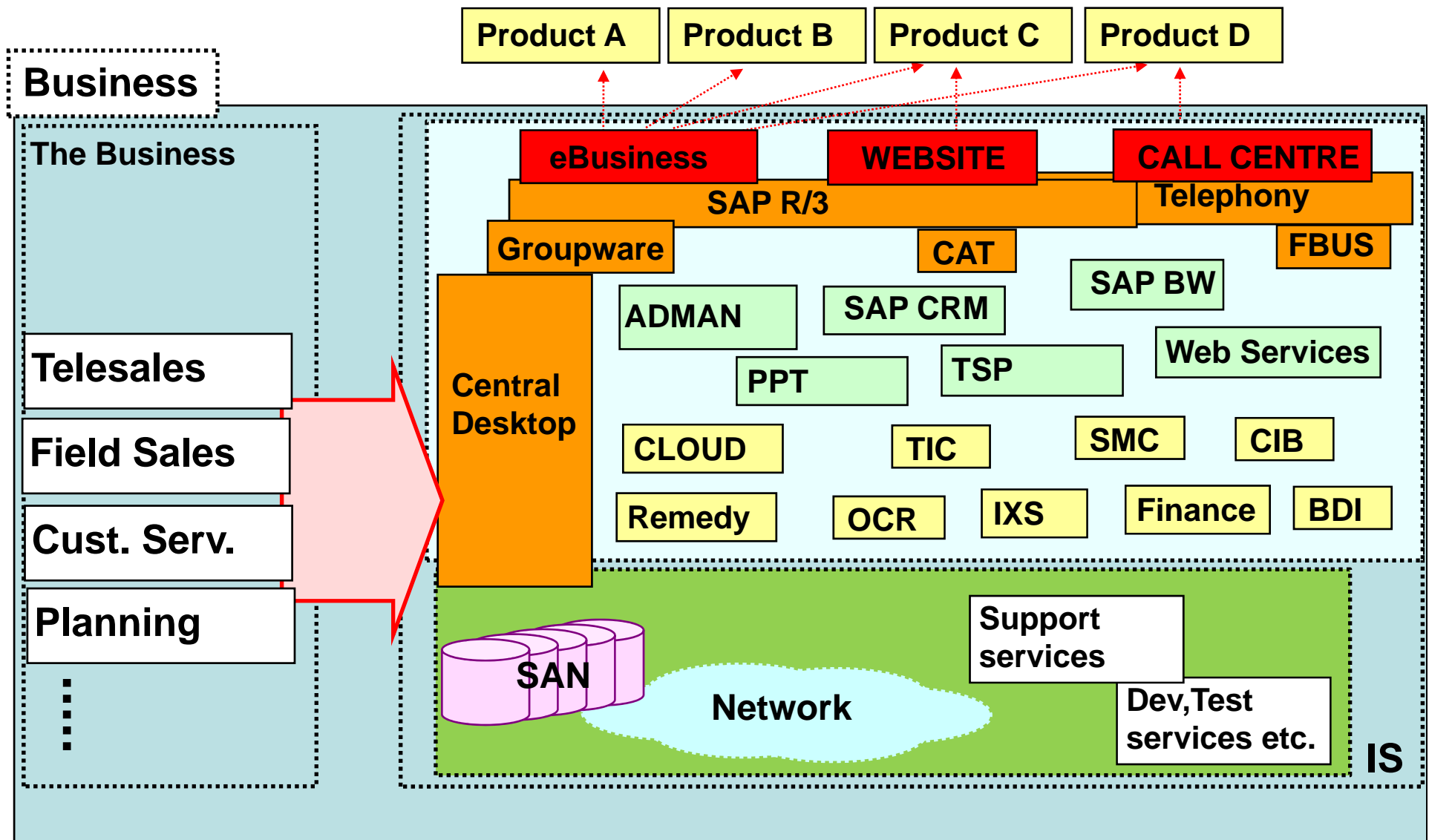 - Direct impact product or legal requirement (x3), indirect (x2) ……

Revised design criteria - based on business criticality

- **_Critical: Continuous availability_** _(target: **99.95%** - restoration **instantaneous**)_
  - _Resilience to all single component failures and some multiple failures (n+1), all components and data (synchronously) dual located, continuous operation, resilience to network failure, server failure, site failure, power, application (instance) and AHU failure, ... swappable kit, no data loss_

Solution design driven by 5 business inputs:

- Public facing service ?
- Approximate number of users ?
- Criticality to business units ?
- Revenue impacting ?
- Product or legally impacting ?

- **_High: High availability_** _(target: 99.9% - restoration 2 hours)_
  - _Resilience to all single component failures, automatic failover (minimal downtime), dual located components and data (asynchronously), resilience to network failure, server failure, site failure, power, application (instance) and AHU failure, no service outage for maintenance, limited service outage for major upgrades, maximum data loss 15 minutes_

- **_Medium: Availability with partial resilience_** _(target: 99.7% - restoration 8 hours)_
  - _Resilience to major component failure, ..._

- **_Low: Availability with limited resilience_** _(target: 97% - restoration 2 days)_
  - _Limited resilience to major component failure, ..._

- **_None: No resilience_** _(target: **95%** - restoration **2 weeks**)_
  - _No resilience, ..._

Revised findings – Service summary

Agreed Service	BSM	Public	USERS	Criticality	Revenue	Product	Calculation	Recommended
WEBSITE	Critical	10	3	4	5	5	3000	Critical
CALL CENTRE	Critical	10	2	4	5	5	2000	Critical
eBUSINESS	Critical	10	5	tbc	5	5	1250	Critical
TELEPHONY	Critical	1	5	4	5	5	500	High
SAP R3	Critical	1	5	5	3	3	225	High
CAT	Critical	1	2	4	5	5	200	High
GROUPWARE	Critical	1	5	4	3	3	180	High
CENTRAL DESKTOP	Critical	1	5	4	3	3	180	High
FBUS	Critical	1	2	3	5	5	150	High
ADMAN	Critical	1	4	4	3	3	144	Medium
WEB SERVICES	Critical	1	4	3	3	3	108	Medium
TSP	Critical	1	2	4	3	3	72	Medium
SAP BW	Critical	1	2	4	3	3	72	Medium
SAP CRM	Critical	1	2	4	3	3	72	Medium
PPT	Critical	1	2	3	3	3	54	Medium
BDI	High	1	1	5	3	3	45	Low
FINANCE	High	1	1	5	3	3	45	Low
CIB	High	1	1	4	3	3	36	Low
CLOUD	High	1	1	3	3	3	27	Low
TIC	Medium	1	1	3	3	3	27	Low
OCR	Medium	1	1	2	3	3	18	Low
REMEDY	Medium	1	2	4	1	1	8	Low
IXS	Critical	1	2	3	1	1	6	Low
SMC	Medium	1	1	2	1	1	2	Low

The "Service Roadmap"

Business

Product A **Product B** **Product C** **Product D**

The Business

Telesales

Field Sales

Cust. Serv.

Planning

eBusiness **WEBSITE** **CALL CENTRE**

SAP R/3 **Telephony**

Central Desktop

Groupware **CAT** **FBUS**

SAP BW

ADMAN **SAP CRM**

PPT **TSP** **Web Services**

CLOUD **TIC** **SMC** **CIB**

Remedy **OCR** **IXS** **Finance** **BDI**

SAN **Network**

Support services

Dev,Test services etc.

IS

Revised availability - Targets and achievements

Agreed Service	BSM Classif-ication	Original Design Target		Current Availability Target	YTD Availability		Revised Design Target	Recommended Classification
WEBSITE	Critical	99.95%		99.95%	99.95%		99.95%	Critical
CALL CENTRE	Critical	99.95%		99.95%	99.95/99.70%		99.95%	Critical
eBUSINESS	Critical	99.95%		99.95%	x		99.95%	Critical
TELEPHONY	Critical	99.95%		99.70%	99.70%		99.90%	High
SAP R3	Critical	99.95%		99.70%	99.92		99.90%	High
CAT	Critical	99.95%		99.95%	x		99.90%	High
GROUPWARE	Critical	99.95%		99.70%	99.97%		99.90%	High
CENTRAL DESKTOP	Critical	99.95%		99.70%	99.99%		99.90%	High
FBUS	Critical	99.95%		99.70%	99.94%		99.90%	High
ADMAN	Critical	99.95%		99.70%	99.96%		99.70%	Medium
WEB SERVICES	Critical	99.95%		99.70%	99.95%		99.70%	Medium
TSP	Critical	99.95%		99.70%	99.95%		99.70%	Medium
SAP BW	Critical	99.95%		99.70%	99.84%		99.70%	Medium
SAP CRM	Critical	99.95%		99.70%	99.99%		99.70%	Medium
PPT	Critical	99.95%		99.70%	99.92%		99.70%	Medium
BDI	High	99.90%		99.70%	x		97%	Low
FINANCE	High	99.90%		99.70%	x		97%	Low
CIB	High	99.90%		99.70%	x		97%	Low
CLOUD	High	99.90%		99.70%	99.99%		97%	Low
TIC	Medium	99.70%		99.70%	x		97%	Low
OCR	Medium	99.70%		99.70%	x		97%	Low
REMEDY	Medium	99.70%		99.70%	x		97%	Low
IXS	Critical	99.95%		99.70%	99.97%		97%	Low
SMC	Medium	99.70%		99.70%	x		97%	Low

Subsequently

- *Consolidated the information into a single definitive service catalogue, within the CMDB*

- *Finalised the Service Design process with the Service Improvement Managers (SIMs), to simplify and "commoditise" design*

- *Information updated in the service catalogue with feedback from the annual BIA exercise*

- *Successfully completed the Data Centre fail-over exercise*

- *Successfully migrated to the new Data Centre*

Case study - Lessons learnt

- *Standardise service names and service classifications as soon as possible*

- *Get a good Service Acceptance process established as soon as possible*

- *Earlier involvement and buy-in from the business stakeholders*

- *Better communication with all areas*

- *Increase the use of common shared knowledge and shared information*

Case study - Benefits

- *Agile design of service solutions*

- *Agreed set of services and service accountability*

- *SAC and SLA agreed within the design process, linked with the resilience of the solution*

- *Everyone understands the logical design process*

- *Design rules accepted by all – business need, service criticality and budget linked and adjustable*

- *All activities are driven by business criticality of the service*

- *Reduced workload, bureaucracy and delay*

- *Single service portfolio and catalogue and set of services used by everyone*

- *Mismatches identified and being resolved*

Future activities - Next steps

- *Full integration with the business not just alignment, focussed on:*

    business outcomes, service criticality and value

- *Gain acceptance and buy-in to the formal Service Design process from all areas*

- *Greater integration of processes and sharing of information and knowledge, by more active use of the Service Management portal (SKMS – ITIL V3)*

- *Link Service Requests to the Service Catalogue and back end systems*

The Living Library

Colin Rudd
ITIL V3 Lead Author

colin.rudd@itemsltd.co.uk

Any questions ?