



**The Best Practices, Methods and Technology
Available Today**

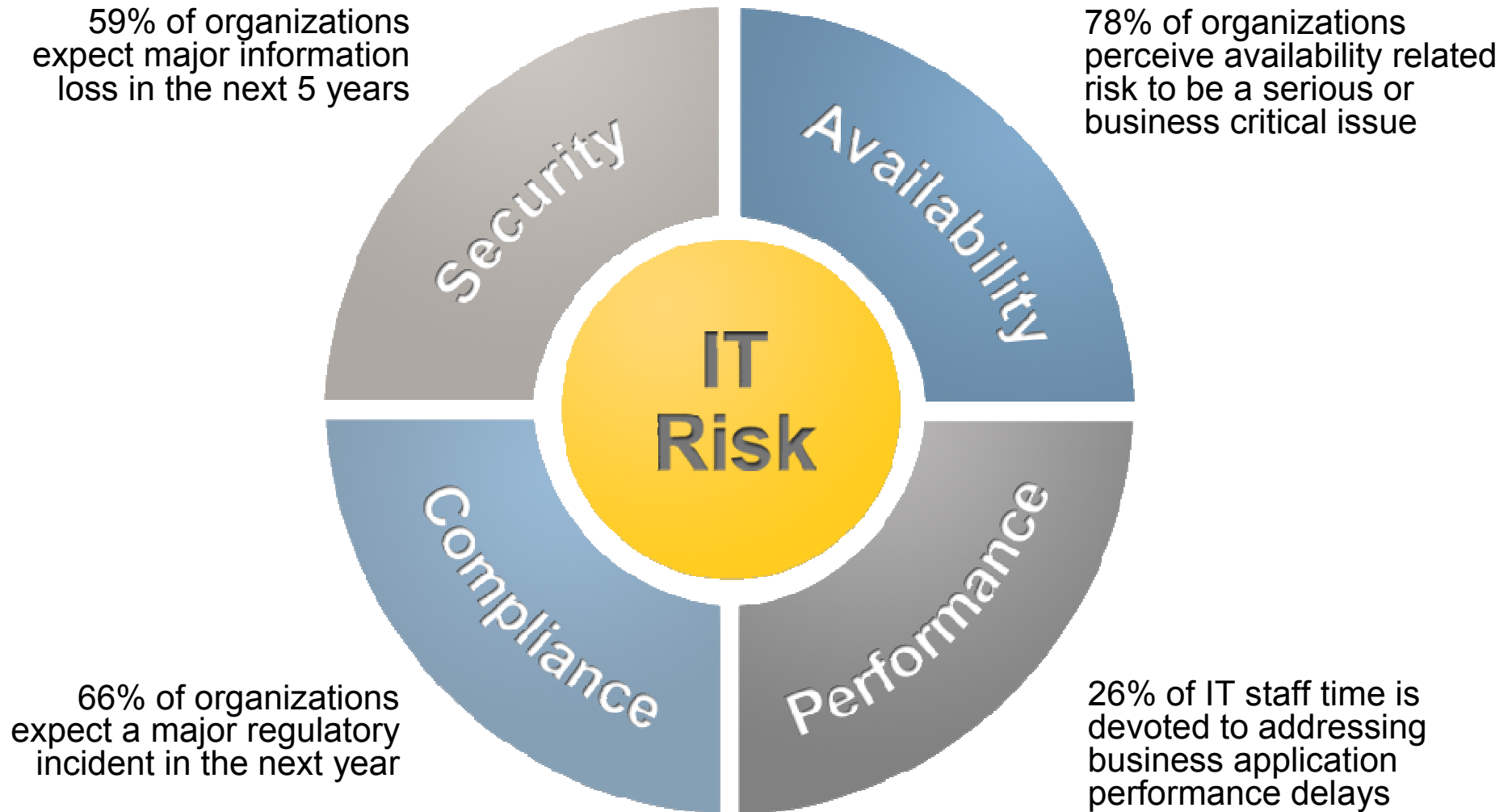


Agenda

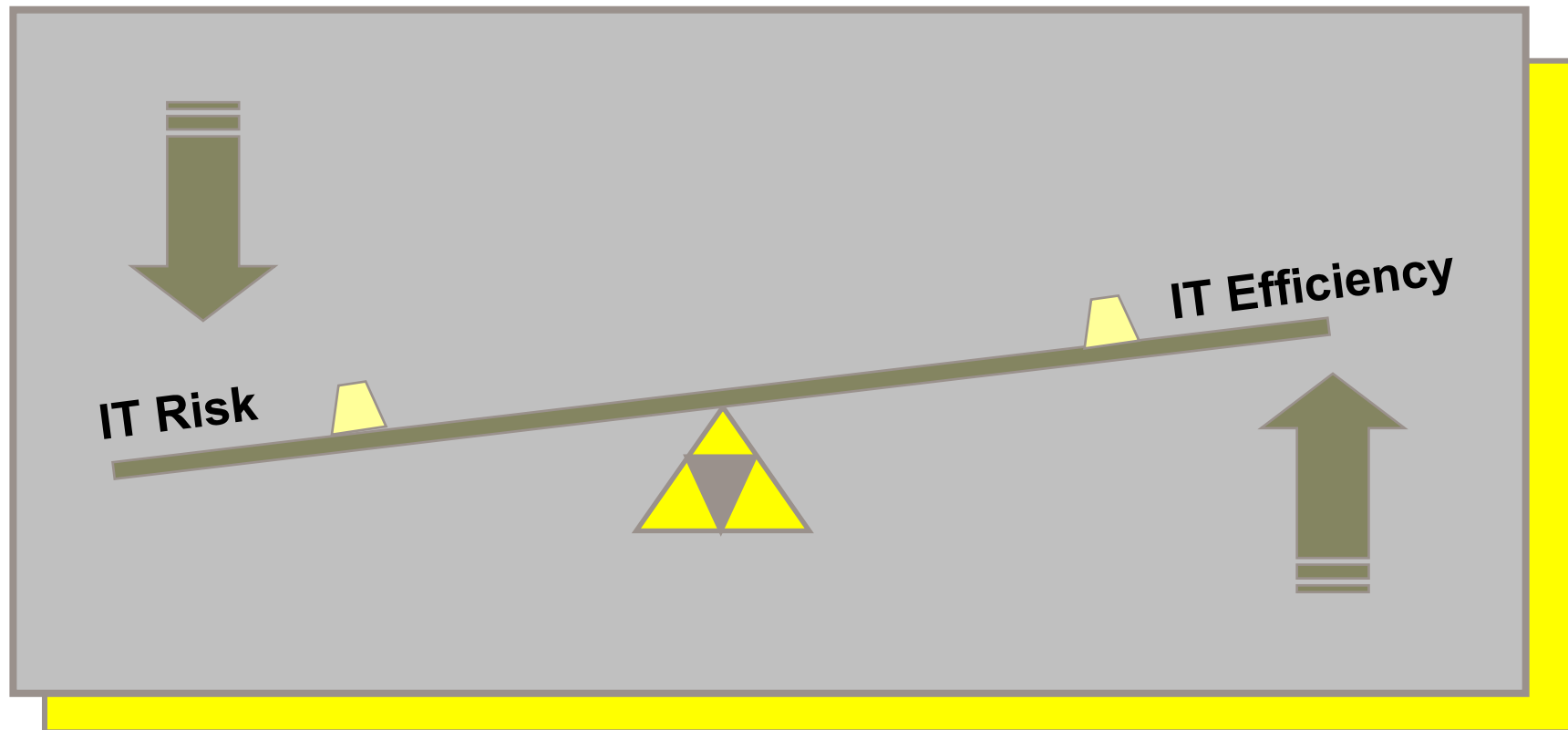
- DR through the lens of IT Risk
- A programmatic approach to DR
- Why Symantec ?
- Possible next steps
- Q&A

IT Risk Defined

Sources: INFORM Benchmark Database
Symantec 2007 Survey



The Relationship Between Risk & Efficiency

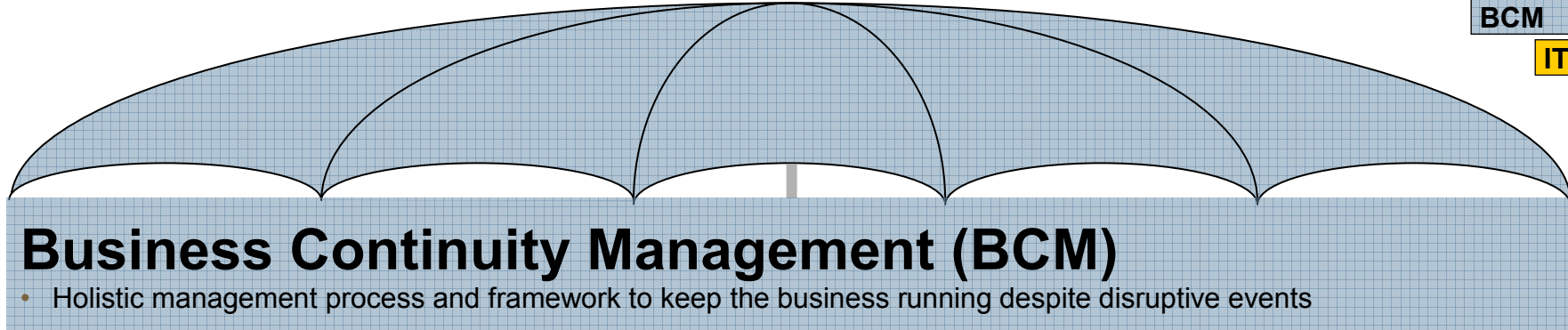


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BCM Is An Umbrella For Several Related Standardized Practices And Technologies

BCM
ITSCM



BU Recovery (Non-IT)

People Process Facility

- Includes...
- Communications & PR
 - Physical security
 - Human resources
 - Knowledge mgt.
 - Crisis mgt.
 - Environmental mgt.
 - Quality mgt.
 - Supply chain mgt.
 - Facilities mgt.
 - Emergency mgt.
 - Risk mgt.

IT Service Continuity Management (ITSCM)

- Process for managing and reducing risks that could seriously impact IT services

IT Staff IT Process IT Facility Technology

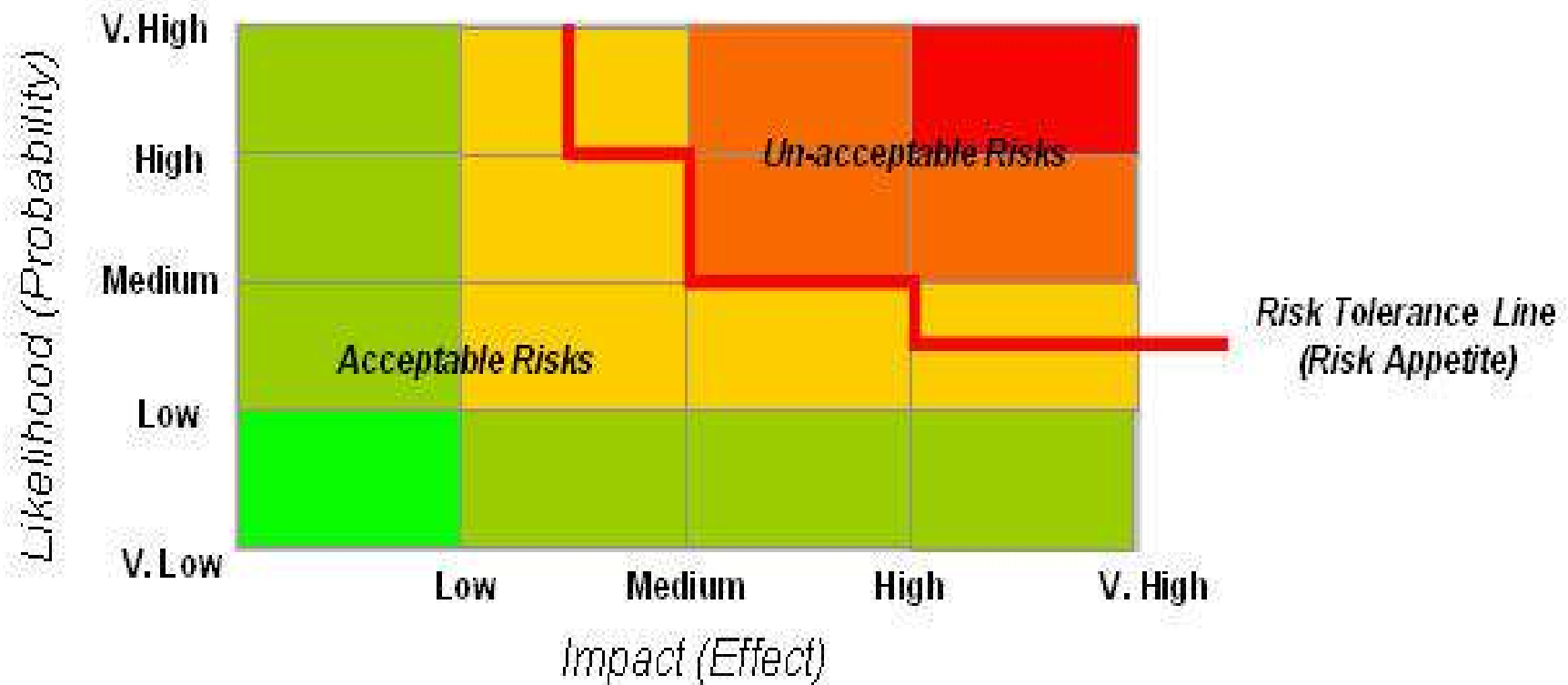
Data Protection **High Availability** **Disaster Recovery**

- Ensures integrity, availability and security of data
- Recovers a computing environment from an error or major site failure
- Moves a business transaction from a failed component to a functioning component with minimal impact

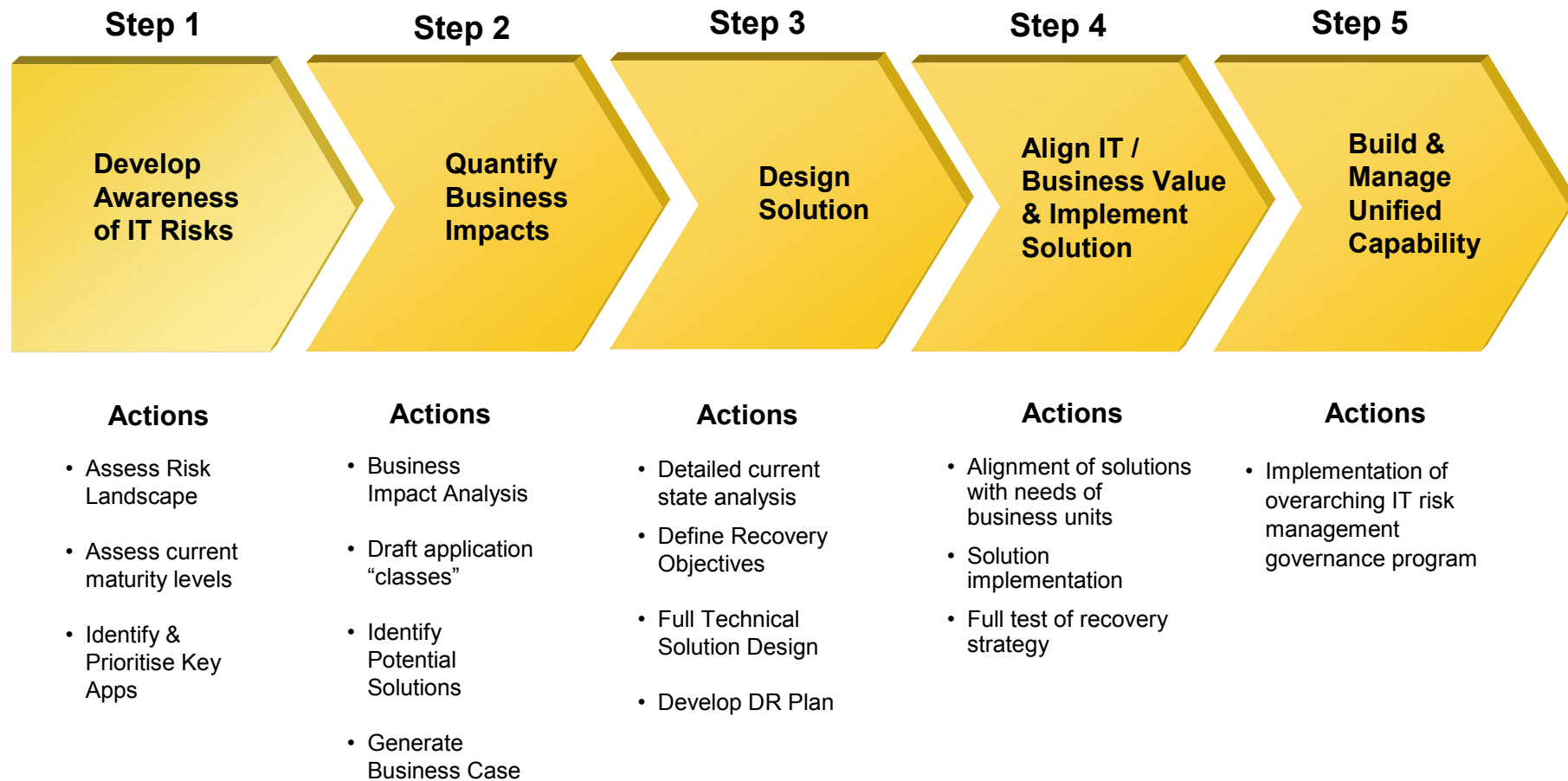
Source: British Standards Institute BS25999

See appendix for additional BCM definitions

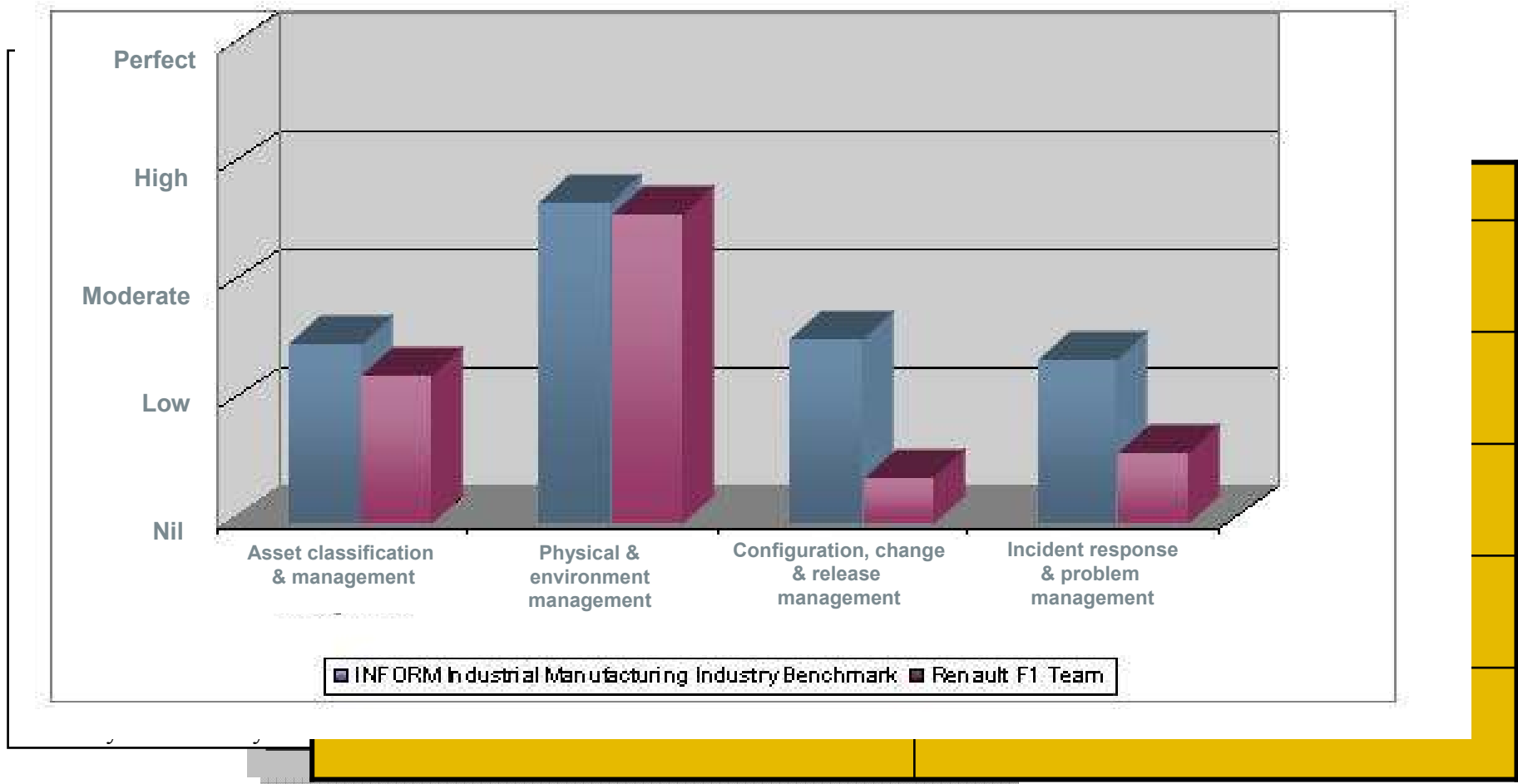
Quantifying Risk Appetite



IT Risk Management Methodology (Applied To DR)



Step 1: Develop Awareness





*Graeme Hackland,
Renault F1 Team*

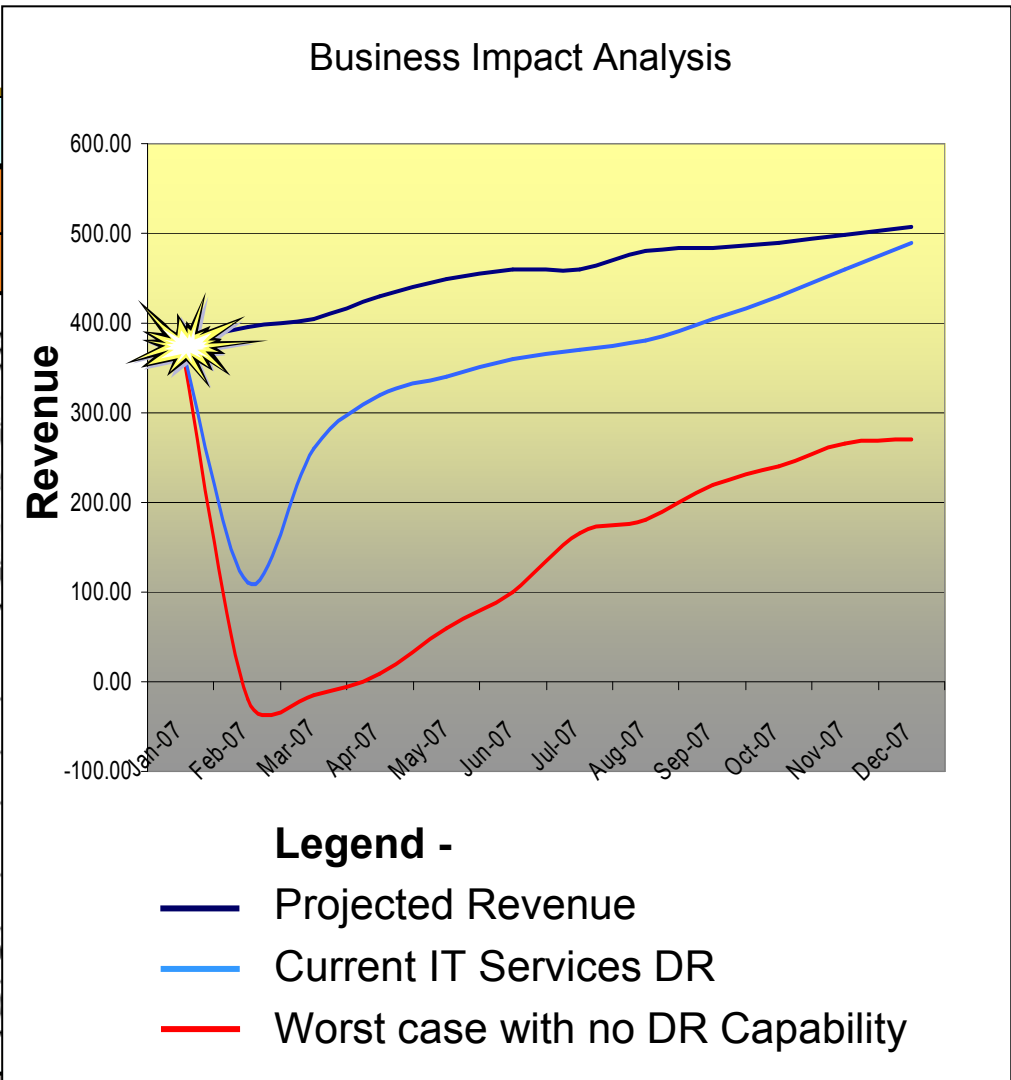
“

Symantec’s ability to highlight our IT related risks in a timely and comprehensive way is helping us to make the right decisions concerning our IT investments and strategy. The Symantec approach to this problem is very sensitive to an individual organization’s culture which is very important to a company like ours.

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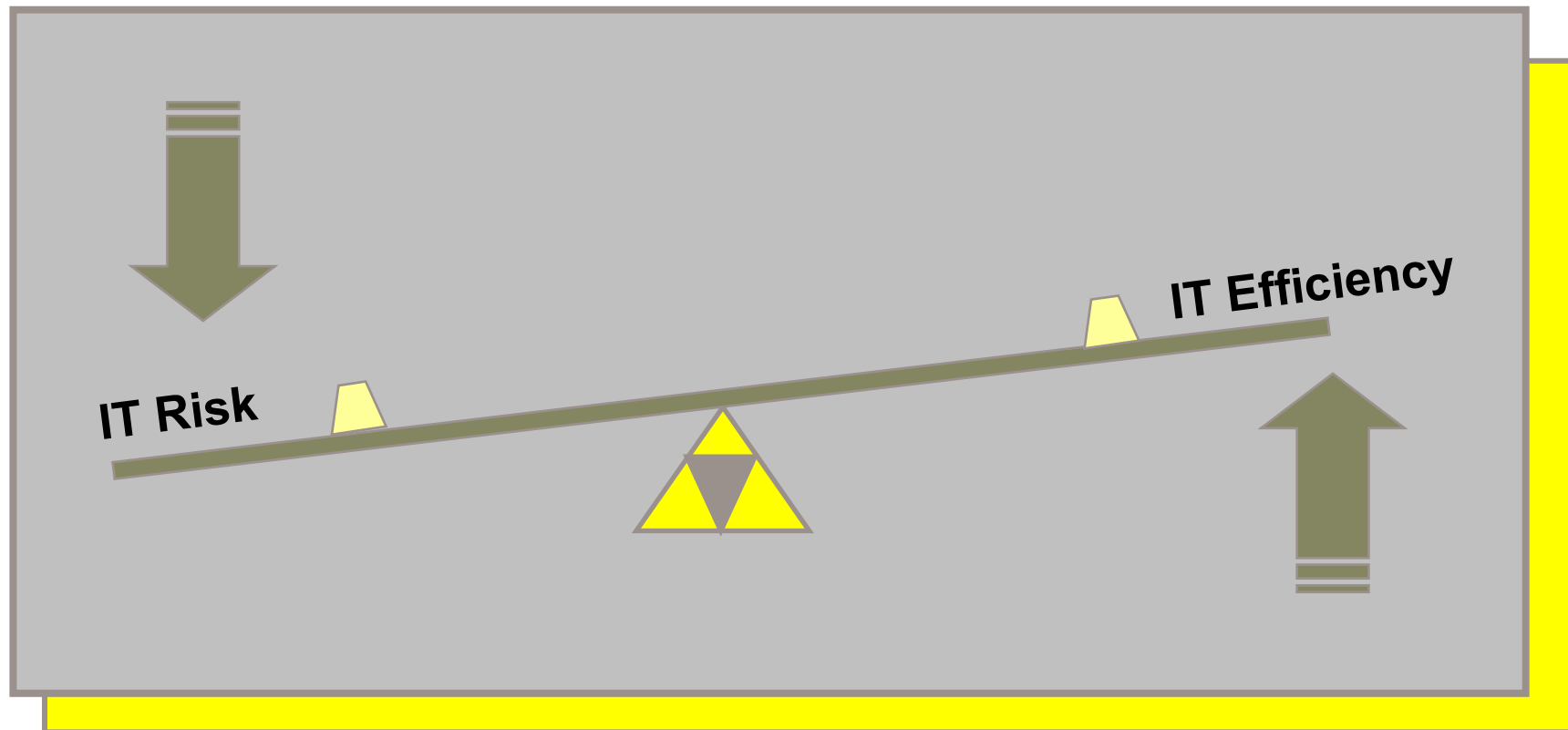
Step 2: Quantify Business Impacts

Systems that would be impacted	Service Class	Financial Impact
TGMSC - Transit Gate	Platinum	<p>Financial Impact</p> <ul style="list-style-type: none"> Nominal value at risk 51% of companies have Normalised risk value There is a \$300m residual <p>Programme Stage</p> <ul style="list-style-type: none"> Foundation Projects Backup Unification OSS Optimisation & Environmental Monitoring Technical Center TBDR Implementation (Platform) TBDR Implementation (Apps) <p>All figures are in USD</p>
MSC (includes VLR & HLR (stand alone)		
Prepaid platform		
SMSC (Comverse)		
SDH Multiplexer (Tra		
SDH Multiplexer (Me		
SGSN		
GGSN		
GPRS Core (DNS, DI		
GPRS Centralised Inf		
MMSC		
USSDC		
SMSC (non mobile ori		
DCN - Data Commun		
SDH Multiplexer (Me		
BSC		
Transcoder		
U-IVR		
Voice Mail		
Fiber Optics System		
SDH Multiplexer (Me		
BTS		
Microwave Radio Rel		
WiFi LAN Core		
Caller ID for PSTN		

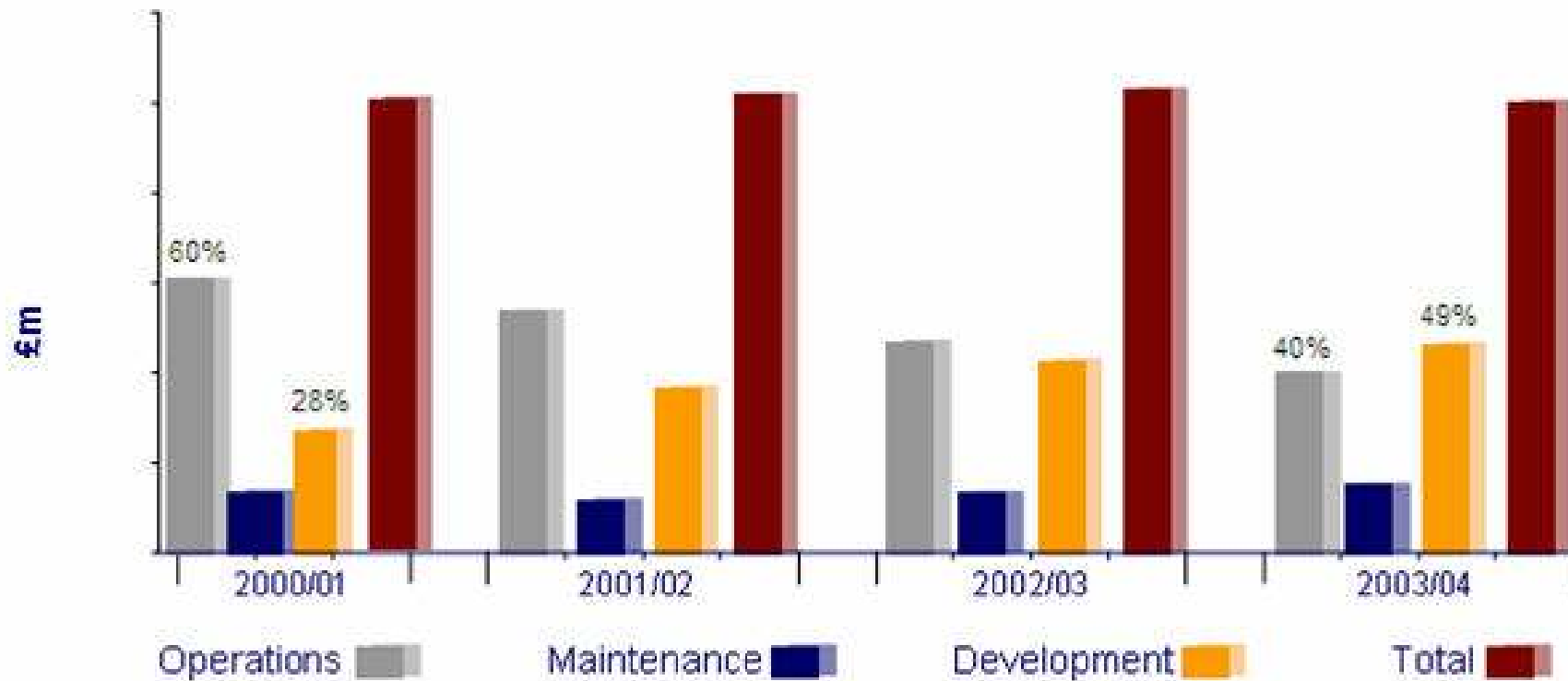


0 hrs
= 4 hrs
= 1 day
= 1 day
= 1 day

The Relationship Between Risk & Efficiency

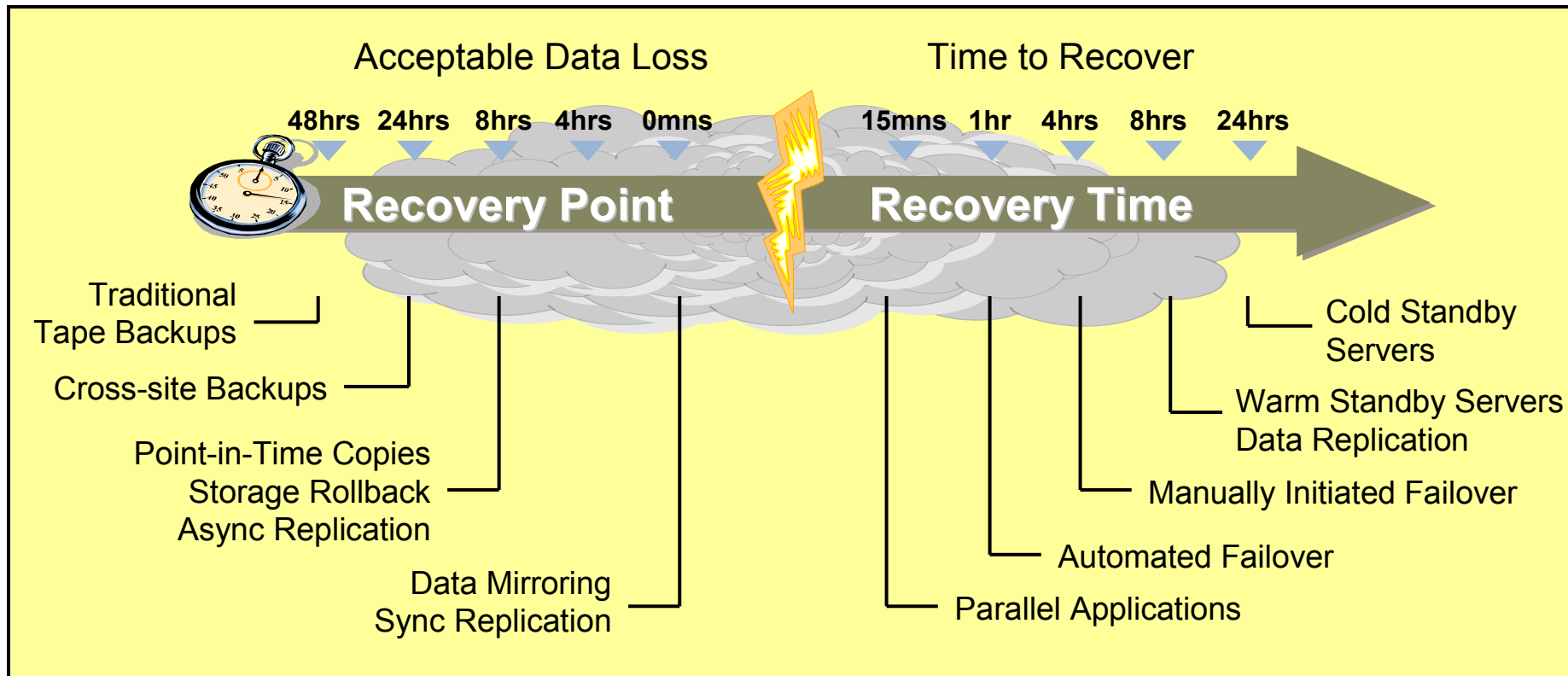


The Relationship Between Risk & Efficiency

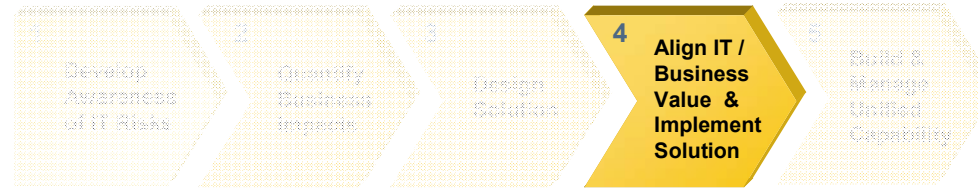


Use efficiency savings to fund new investment

Step 3: Design Solution



Step 4: Align & Implement Solutions



<p>TV Transmission</p> <p>24*7 scheduled 99.99% availability RTO= 2 hrs RPO= 0 hrs</p>	<p>Supply Chain, Email</p> <p>24*6¾ scheduled 99.5% availability RTO= 8 hrs RPO= 4 hrs</p>	<p>Ent. Back Office</p> <p>18*7 scheduled 99.0% availability RTO= 3d RPO= 1d</p>	<p>Departmental</p> <p>18*7 scheduled 98.0% availability RTO= 5d RPO= 1d</p>	<p>Standalone</p> <p>12x5 scheduled 98.0% availability RTO= 10d RPO= 1d</p>
<p>Platinum £500K</p>	<p>Gold £250K</p>	<p>Silver £125K</p>	<p>Bronze £75K</p>	<p>Copper £50K</p>

Classes of DR Service

Applications	Business Criticality
TV Transmission support systems	Mission Critical
Supply chain management, email	Business Critical
Enterprise back office systems	Business Important
Departmental functions	Function Important
Standalone systems	Non-critical

Service Level Mapping

Service Class	Example App	Service Levels
Platinum (Immediate Recovery)	TV Transmission support systems	24*7 scheduled 99.99% availability RTO= 2 hrs RPO = 0 hrs
Gold (Hot Standby, redundant)	Supply chain management, email	24*6¾ scheduled 99.5% availability RTO = 8 hrs RPO = 4 hrs
Silver (Hot Standby, reuse)	Enterprise back office systems	18*7 scheduled 99.0% availability RTO = 3 days RPO = 1 day
Bronze (Intermediate recovery)	Departmental functions	18*7 scheduled 98.0% availability RTO = 5 days RPO = 1 day
Copper (Gradual Recovery)	Standalone systems	12x5 scheduled 98.0% availability RTO=10 days RPO = 1 day

Architectural Blueprints

Service Level	Application Type	Technology Standards
Platinum Gold Silver Bronze Copper	RDBMS Application Servers Web Servers	Tape Media Storage Media HSM Media Data Replication Storage Area Networks Wide Area Networks Servers Clustering Volume Replication Volume Management Filesystems

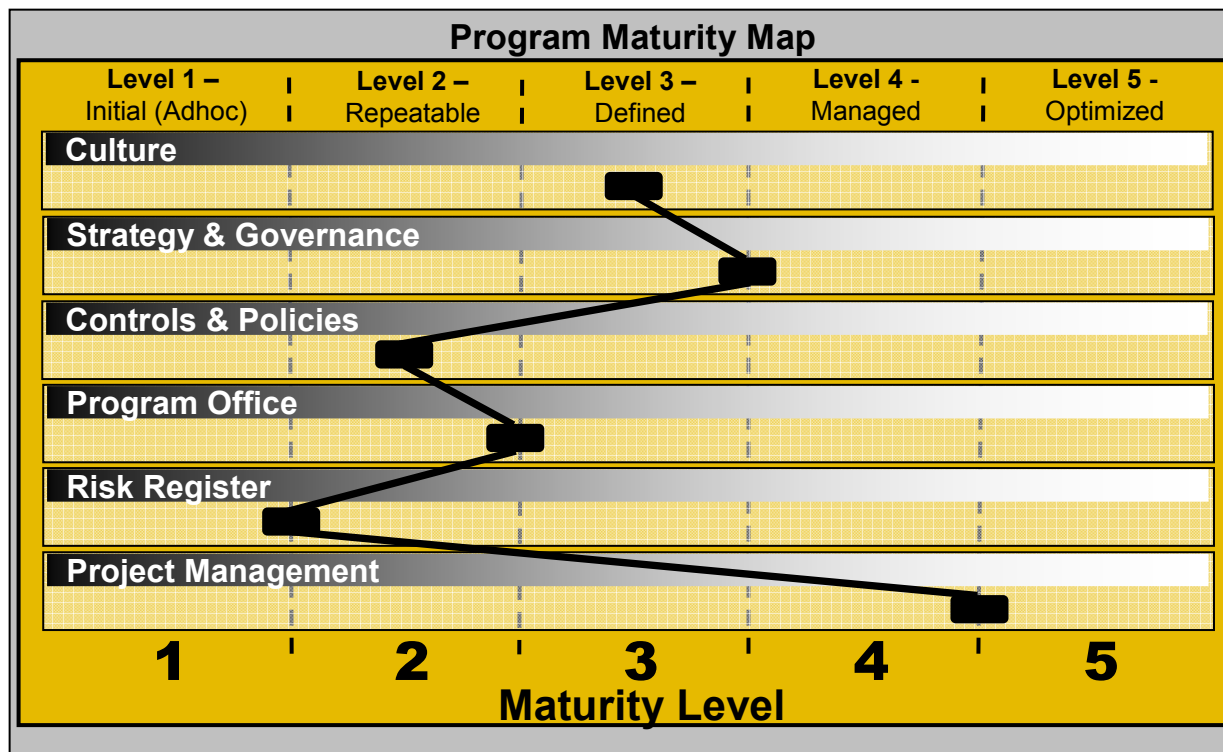
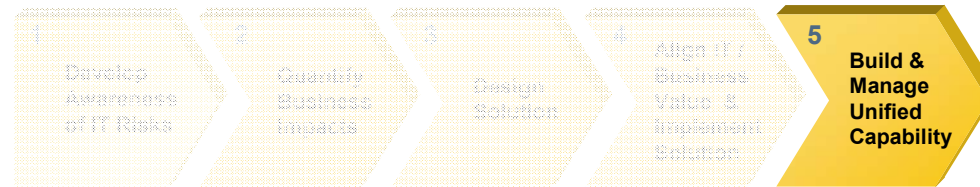
Architectural Blueprints

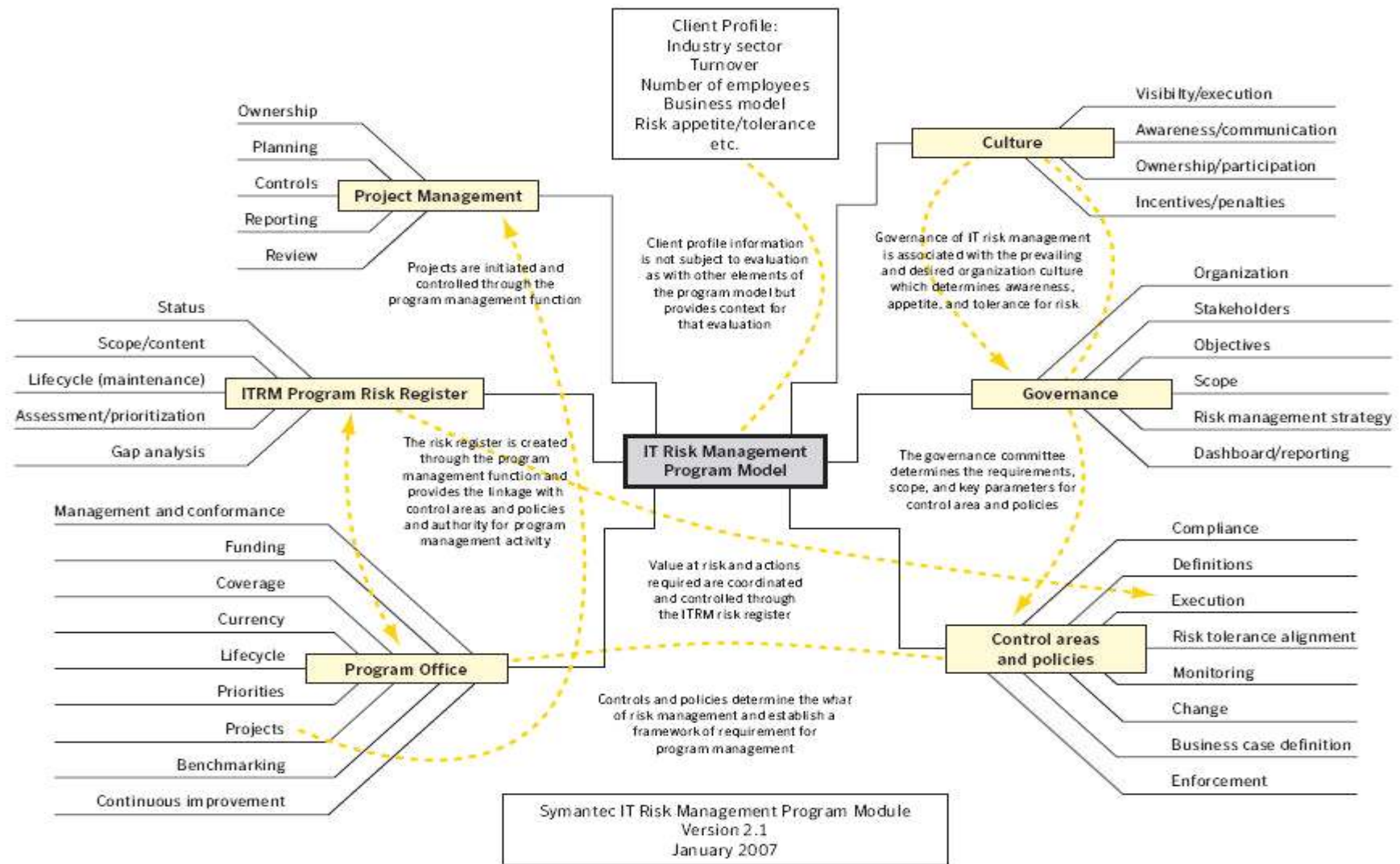
Platinum Level Blueprint - "Immediate Recovery"

RDBMS STANDARDS

Online & Nearline Storage Media	Approved Architecture Design Characteristics :				
	Array Types	a Backup/Snapshot Metl	Disk Protection	I/O Interfaces	Cache Requirements
Tier One High Performance - 100% Tolerance to Failure - For use in storing critical data that is frequently accessed.	EMC Symmetrix (DMX)	EMC Timefinder Snapshots (taken once per hour)	RAID 0/1	2G Fibre Channel	Refer to EMC at time of configuration
Tier Two Medium Performance - 100% Tolerance to Failure - For use in de-staging critical data in line with defined Sky TV HSM standards. Can also be used where legacy Sky estate is already is use.	EMC Symmetrix 8000	EMC Timefinder Snapshots (taken once per hour)	RAID 0/1	1/2G Fibre Channel	Refer to EMC at time of configuration
Tier Three Low Performance - Nearline - For use in archiving critical data in line with Sky TV archiving standards	EMC Clariion CX (ATA Disks)	Traditional Tape Backup	RAID 5	1/2G Fibre Channel	Refer to EMC at time of configuration
Additional Notes :	"Archiving" is not the same as "backup". Backup standards are defined seperately within this blueprint. ATA disks are currently being considered to populate Tier Three of this standard. HSM/Backup software would move data from Tier Three Online Media to Tier One Tape Media				

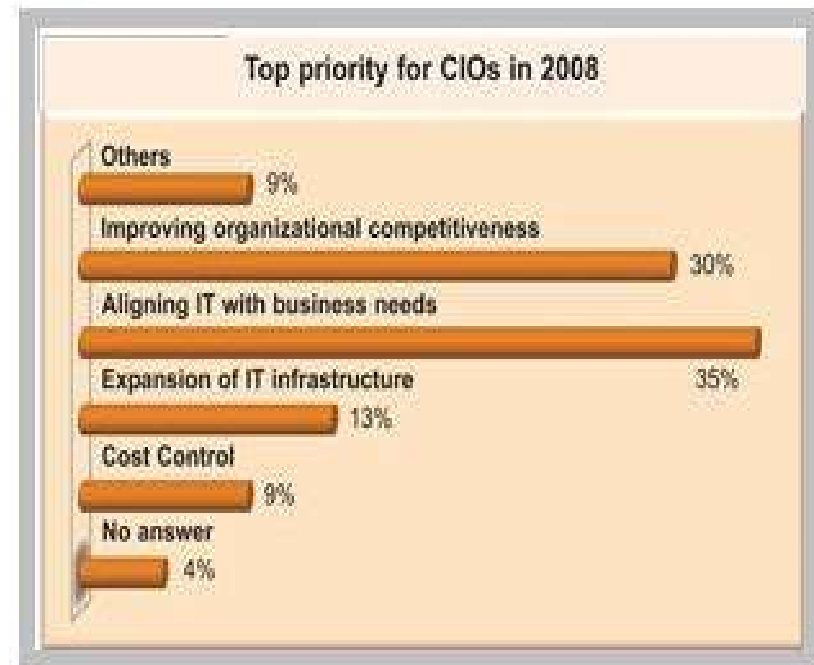
Step 5: Build Institutional Capability





Typical Outcomes

- Huge reduction in the cost of DR implementation
- Improved IT/Business Alignment
- IT standards become a reality
- REAL IT consolidation !
- Reduction of IT risk
- SUSTAINABLE improvement



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Symantec Technology Can Deliver Against Any HA/DR Requirement

<p>Databases</p>	<p>Middleware</p>	<p>Applications</p>
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CRITICAL SLA	PREMIUM SLA	ENHANCED SLA	BASIC SLA
<p>Local/Metro HA, Global DR</p> <p>Storage Management With Snaps & Replication Tier 1 Only</p> <p>RPO & RTO (4 HRS) Tape, Disk, Dedup, VTL, CDP</p>	<p>Local HA & DR</p> <p>Storage Management With Snaps & Replication Tier 1 & Tier 2</p> <p>RPO & RTO (12 HRS) Tape, Disk, Dedup & VTL</p>	<p>Local HA</p> <p>Storage Management With Snaps Only Tier 2 Only</p> <p>RPO & RTP (24 HRS) Tape & Disk</p>	<p>No HA</p> <p>Storage Management No Snaps or Replication Tier 3 Only</p> <p>RPO & RTO (48 HRS) Tape</p>

HA & DR: Design SLAs across any hardware and application

HA & DR for all Application with Veritas Cluster Server

Storage Management for all Applications with Veritas Storage Foundation

Protection for all Data & Systems with Veritas NetBackup

SYMANTEC TECHNOLOGY

<p>Network</p>	<p>Storage</p>	<p>Servers</p>	<p>Virtual Machines</p>
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“

Symantec has been very service-oriented during our relationship with them. At each stage of the development of the Business Continuity program, they have explained each phase in terms of the risk involved, the likely financial saving, and the threat to lost revenue if the phase is not developed. They speak our language

”



*Dmitry Ustyuzhanin
Head of IT Security
VimpelCom*

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Possible Next Steps...

- **Further Reading**
 - “Business Driven IT Optimisation”, D. Thomson, Dr. G. Bunker
 - Symantec IT Risk Report
 - Symantec DR Survey, 2008
- **Symantec Consulting**
 - IT Service Continuity Assessment
- **Facilitated Internal Workshops**
 - INFORM Express Best Practice Benchmark
 - Symantec DR Assessment Workshop
- **Specific Product Briefings**
 - Symantec EBC

QUESTIONS & ANSWERS

Thank You !