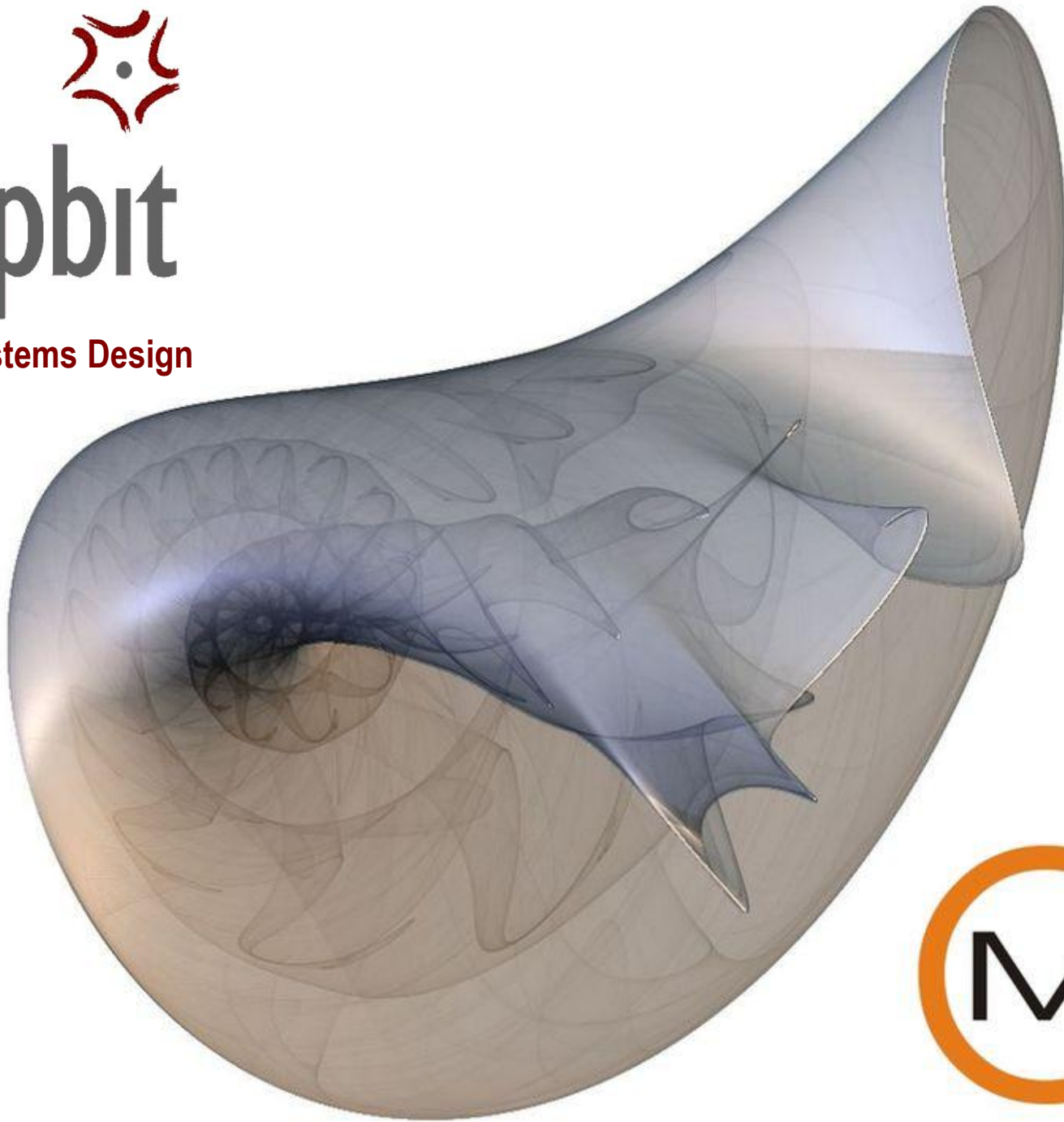




Sinapbit

Integrated Systems Design

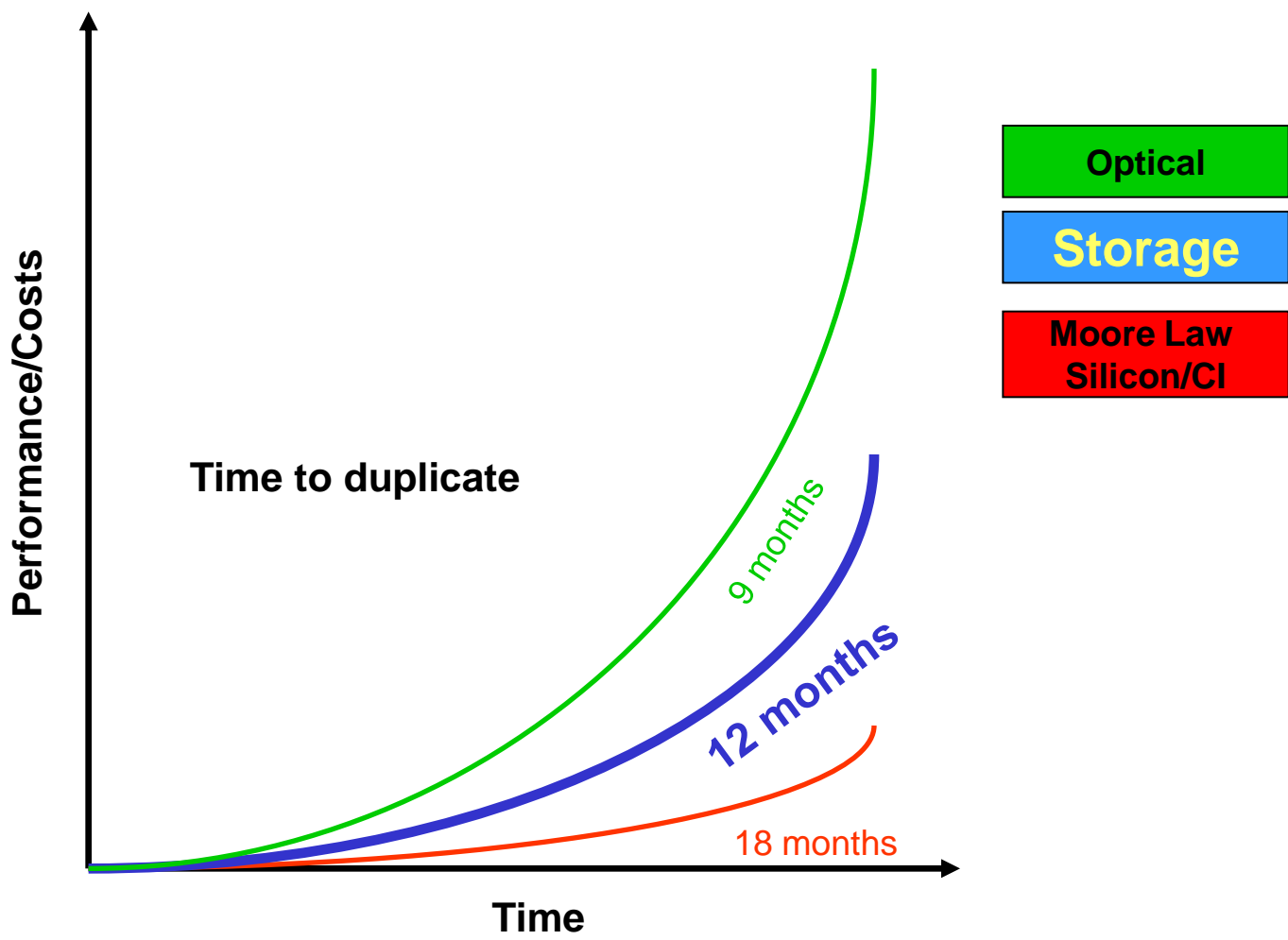


Frequent problems in a complex operation

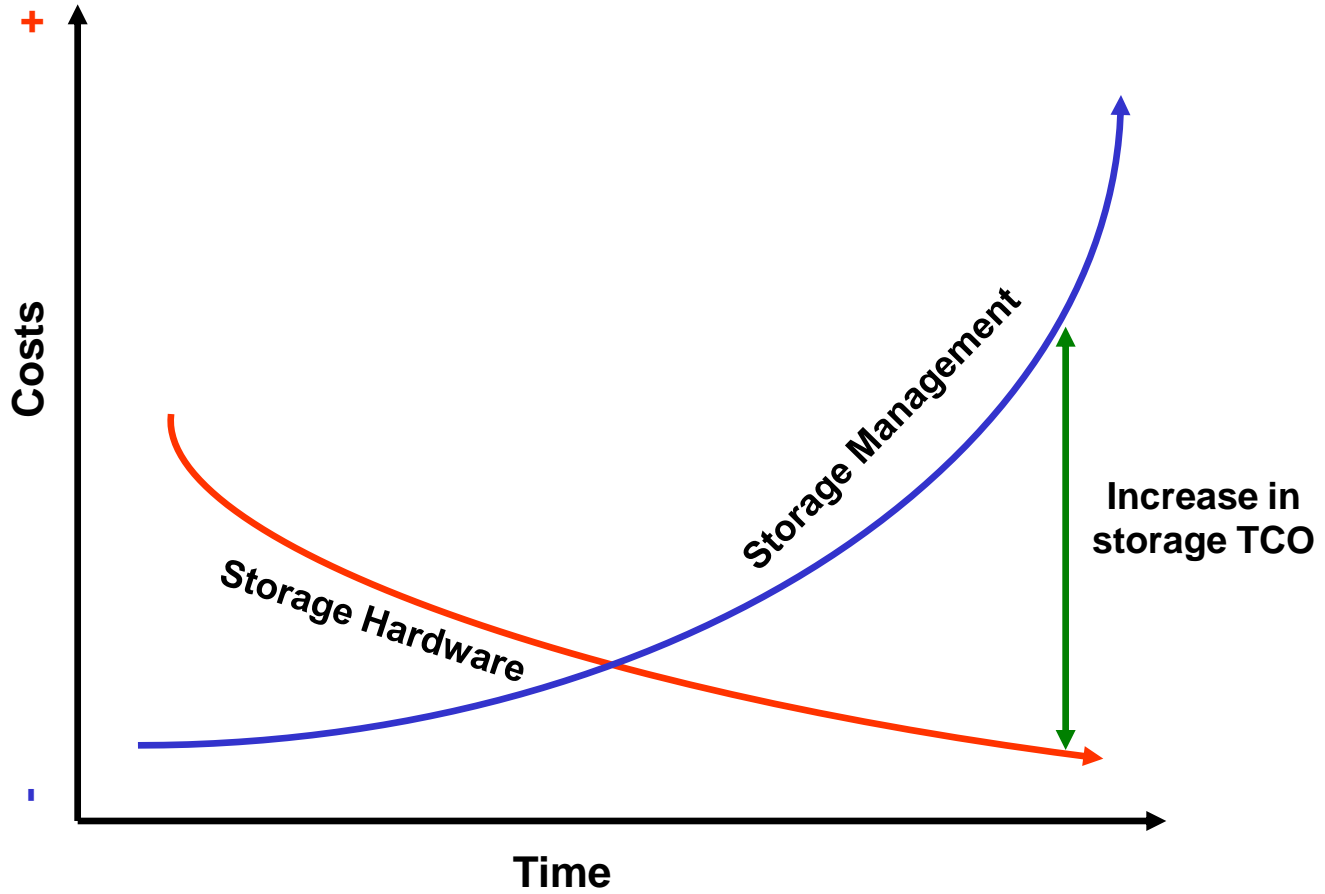
- Few people to manage and control; not available or cost analytic tools to take the right decisions
- Infrastructure and services are so complex and diverse that the previous point is worse.
- Storage needs grows and you have the perception that it is impossible to control
- Profile of who control resources and services provided by insourcing/outsourcing is different from who see technological aspects
- It is difficult to obtain an homogeneous analysis of problems and/or situations, because each resource has its own reporting that complicate management
- In a third party operation you must believe on provider reports because you don't have your own, so then you have problems with your internal audits because you have to paid bills for resources and services without the appropriate control
- About 20% of resources have the 80% of costs, so you must have the capacity to explore them in great detail for analysis
- Lack of understanding of the complexity of the data/storage associated with your processes (latency, frequency, size)



Storage – Something more than Moore



Storage – Total Cost of Ownership (TCO)

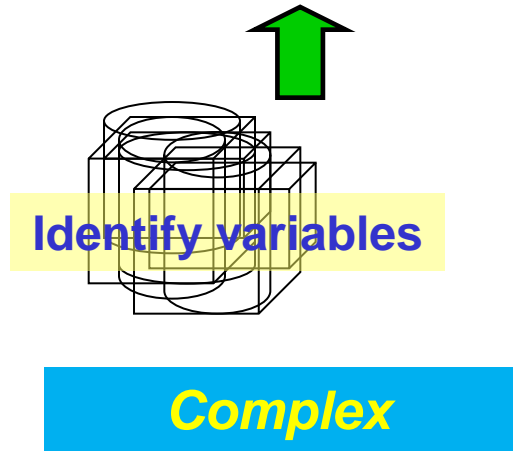
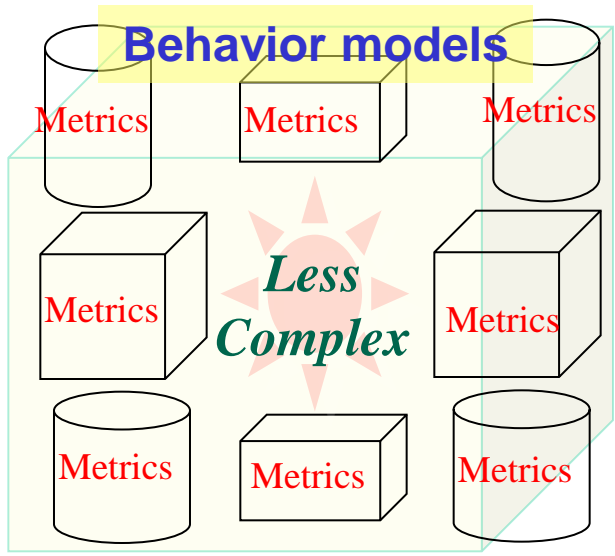
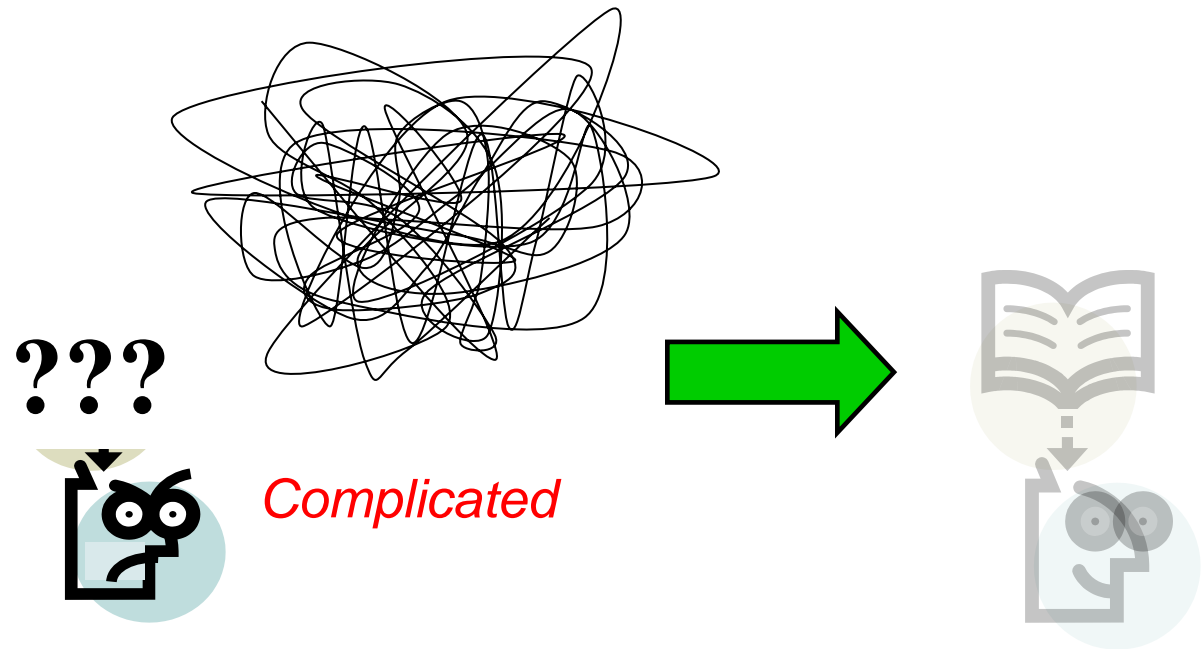


Model your installation with our cost drivers template !!



Actual IT scenario – Analysis approach

- Complicated analysis because of lack of an appropriated model
- Difficulty to identify metrics and their relations
- Lack of historical vision of metrics
- Incapacity to detect exceptions
- Difficulty to detect subutilized resources
- Low utilization coefficients and high TCO in consequence



Complex: identify variables, measure, know → control



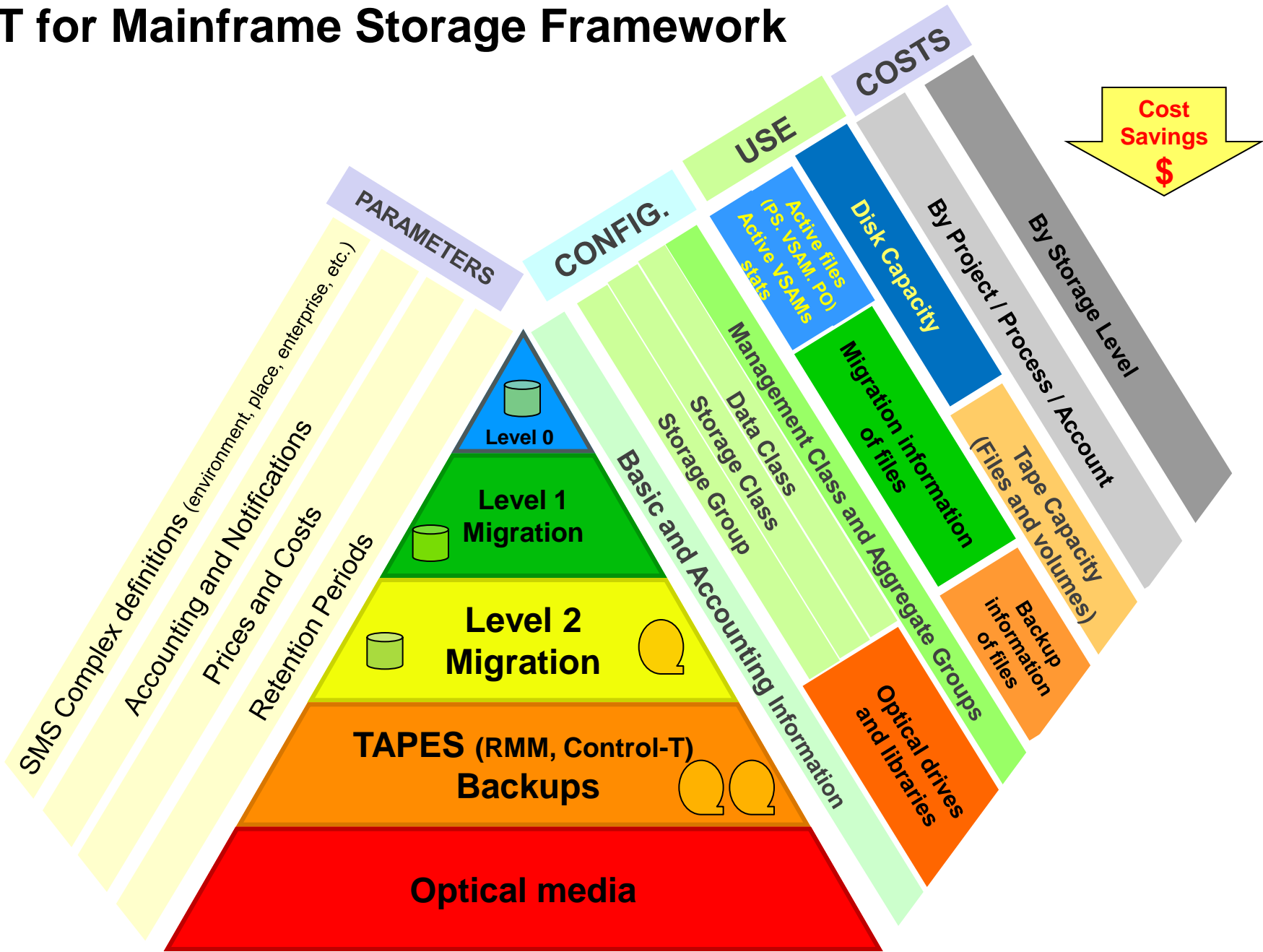
Solution model - Objectives

Infrastructure

- Detail knowledge of storage use and management definitions
- Capacity to make accounting and tracking using up to five levels of qualifiers
- Save historical information for trend and evolution analysis
- Parametric tables add value to information
- Capture frequency according to tracking needs (daily, weekly, monthly)
- Find the correct balance between costs and process times
- Facilitate the tracing of configuration changes for audit and best practices (ITIL) alignment
- One solution for all mainframe storage platforms



CMIT for Mainframe Storage Framework



Saving Opportunities

- Simplified and reduced analytic tasks; Drill down capacity with a standard market tool (excel), that accelerate use
- Automatic changes registration in a SMS environment, aligning SMS with ITIL best practices
- Identify big consumers for accountability and traceability (pricing and quotas)
- Automatic delivery of reports to the accountable groups
- Postpone or reduce future investment on storage
- Reduce service costs in an outsourcing model
- Reduce DFHSM MIPs because of a better understanding of data lifecycle
- Less recalls so less business process times
- Most common problems: files without compression, files not migrated but not used, relaxed MC attributes for level 0 and level 1, small blocked files, too much backups, space not released, low tape used, etc.



Configuration Reports

CMIT for SMS

Highlighted by potential costs - Management Class Report

NAME OF MANAGEMENT CLASS	PARTIAL RELEASE FLAGS	EXPIRE AFTER DAYS NO USE	EXPIRE DATE SINCE CREATE	MIN DAYS ON PRIM / LAST USE	MIN DAYS ON LVL 1 / LAST USE	COMMAND OR AUTO MIGRATE	NUMBER OF BACKUP VERSIONS	ALLOW ADMIN OR USER BACKUP	DAYS TO KEEP BACKUP VERSION	MAXIMUM DAYS TO RETAIN
TEMP	NONE	3	0	2	60	NO MIGRATION ALLOWED	2	NO USER OR ADMIN BACKUP	30	3
DUMP	NONE	5	0	2	0	AUTO MIGRATE OR ON COMMAND	1	NO USER OR ADMIN BACKUP	1	5

Potential Overlapping of attributes - Management Class Report

EXPIRATION ACTION	RETAIN DAYS ARCHIVE COPY	DATA SET RETENTION FLAGS	EXPIRE AFTER DAYS NO USE	EXPIRE DATE SINCE CREATE	EXPIRE DAYS SINCE CREATE	MIN DAYS ON LVL 1 / LAST USE	COMMAND OR AUTO MIGRATE	BACKUP FREQUENCY	NUMBER OF BACKUP VERSIONS	NUM OF VERSIONS DS DELETED	DAYS TO KEEP BACKUP VERSION	DAYS TO KEEP ONLY BACKUP	ALLOW ADMIN OR USER BACKUP	Total
NULL		EXPIRE DATE=NOLIMIT + EXPIRE AFTER	0	0	0	0	AUTO MIGRATE OR ON COMMAND		0	1	0	1	ALLOW ADMIN OR USER COMMAND	8

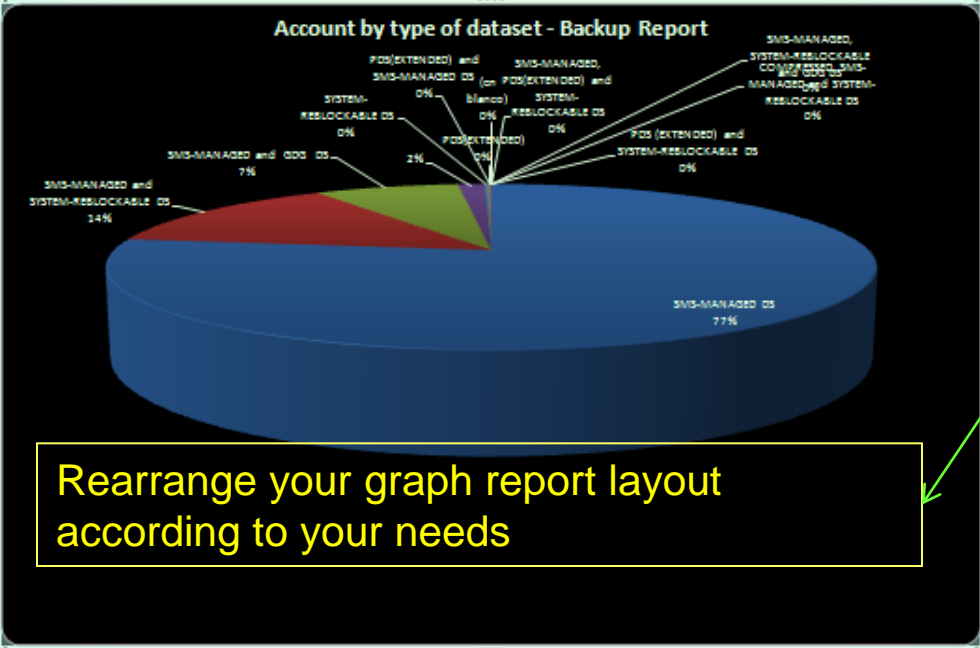
Potential overlapping for NON-VSAM data sets - Data Class Report

DATA SET RECORG NULL - SAM

DATA SET RECFM	RECORD LENGTH	PRIMARY SPACE AMOUNT	SECONDARY SPACE AMOUNT	COMPACTION TYPE	EXPIRATION DATE - ABSOLUTE DAY OF YEAR	MAXIMUM VOL COUNT FOR EXTEND	DSNTYPE	DIRECTORY BLOCKS	AVGREC - M K U	ALLOCATION UNIT AMOUNT	MEDIA TYPE	RECORDING TECHNOLOGY	Total
NULL		0	0	NULL COMPACTION		0	NULL				NULL	NULL	3
											MEDIA2 - ENHANCED CAPACITY CARTRIDGE	36 TRACK	3
							1 NULL		0		NULL	NULL	3
							HFS		0		NULL	NULL	1
							59 EXTENDED(C)		0		NULL	NULL	2
							NULL		0		NULL	NULL	1



Use Reports – Pie chart, filters, fields and layouts



Rearrange your graph report layout according to your needs

Lista de campos de tabla dinámica

Seleccionar campos para agregar al informe:

- BACKUP VERSION SIZE (IN KB)
- Coll_Date
- DEVICE CLASS OF BACKUP VOLUME
- INFORMATION FLAG #2
- MANAGEMENT CLASS NAME
- SMS_COMPLEX
- SPACE ALLOCATED (IN KB)

Panel de filtros del gráfico dinámico

Campos activos en el gráfico dinámico

Filtro de informe

- SMS_COMPLEX
- Coll_Date
- DEVICE CLASS OF BACKUP VOLUME
- MANAGEMENT CLASS NAME

Campos de eje (categorías)

- INFORMATION FLAG #2

Campos de leyenda (series)

Valores

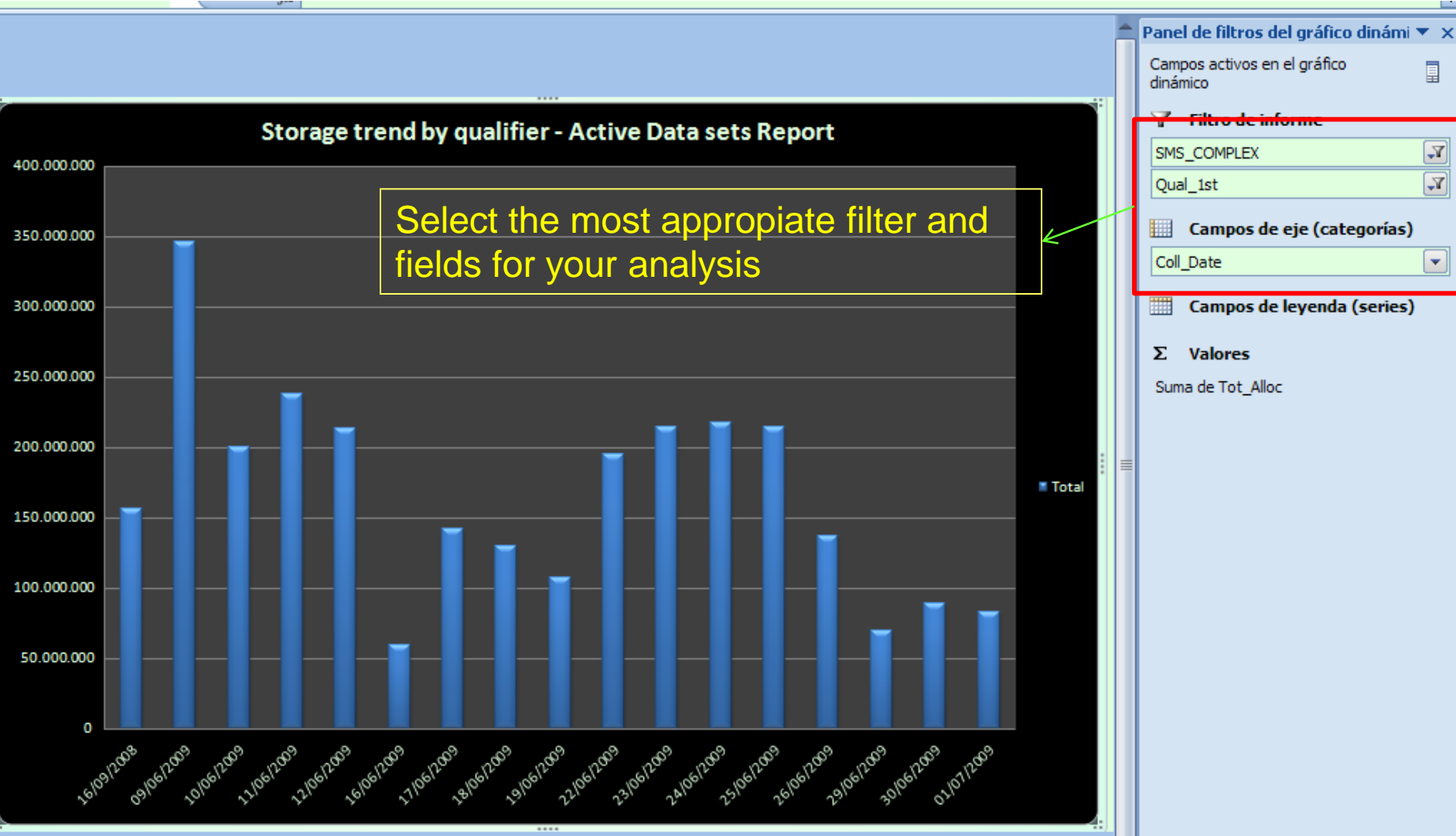
Suma de SPACE ALLOCATED (IN KB)

Arrastrar campos entre las áreas siguientes:

- Filtro de informe**: SMS_COMPLEX, Coll_Date, DEVICE CLAS..., MANAGEMEN...
- Campos de ley...**
- Campos de eje...**: INFORMATIO...
- Valores**: Suma de SPA...

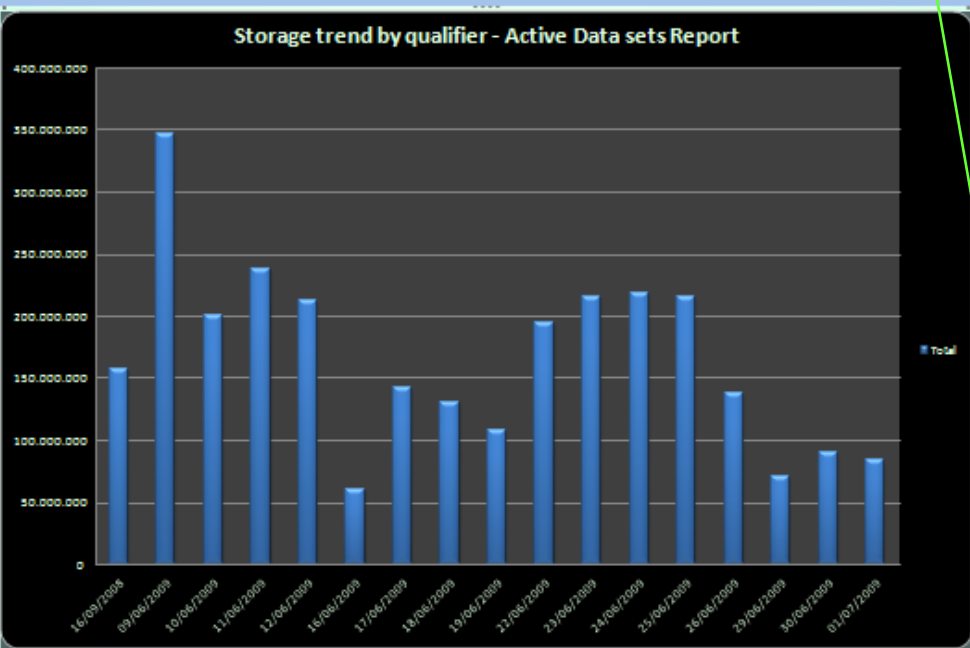


Use Reports – Trend chart, filters



Use Reports - Trend chart, filters, fields and layouts

Rearrange your graph report layout according to your needs



Lista de campos de tabla dinámica

Seleccionar campos para agregar al informe:

- Coll_Date
- Qual_1st
- SMS_COMPLEX
- Tot_Alloc

Panel de filtros del gráfico dinámico

Campos activos en el gráfico dinámico

Filtro de informe

- SMS_COMPLEX
- Qual_1st

Campos de eje (categorías)

- Coll_Date

Campos de leyenda (series)

Valores

Suma de Tot_Alloc

Arrastrar campos entre las áreas siguientes:

Filtro de informe

- SMS_COMPLEX
- Qual_1st

Campos de leyenda

Campos de eje...

- Coll_Date

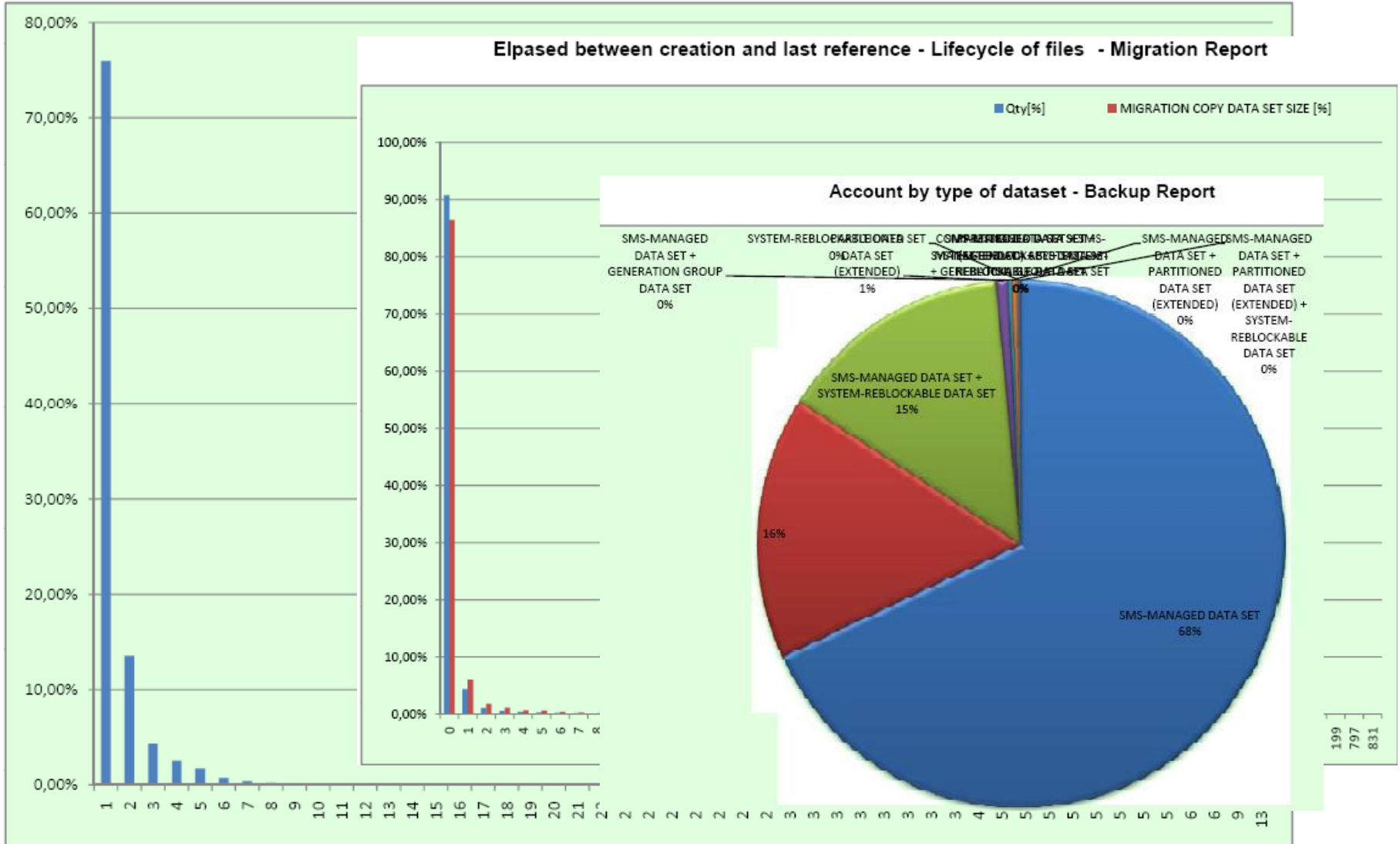
Valores

- Suma de Tot_...



Use Reports

Number of recalls by files - Migration Report

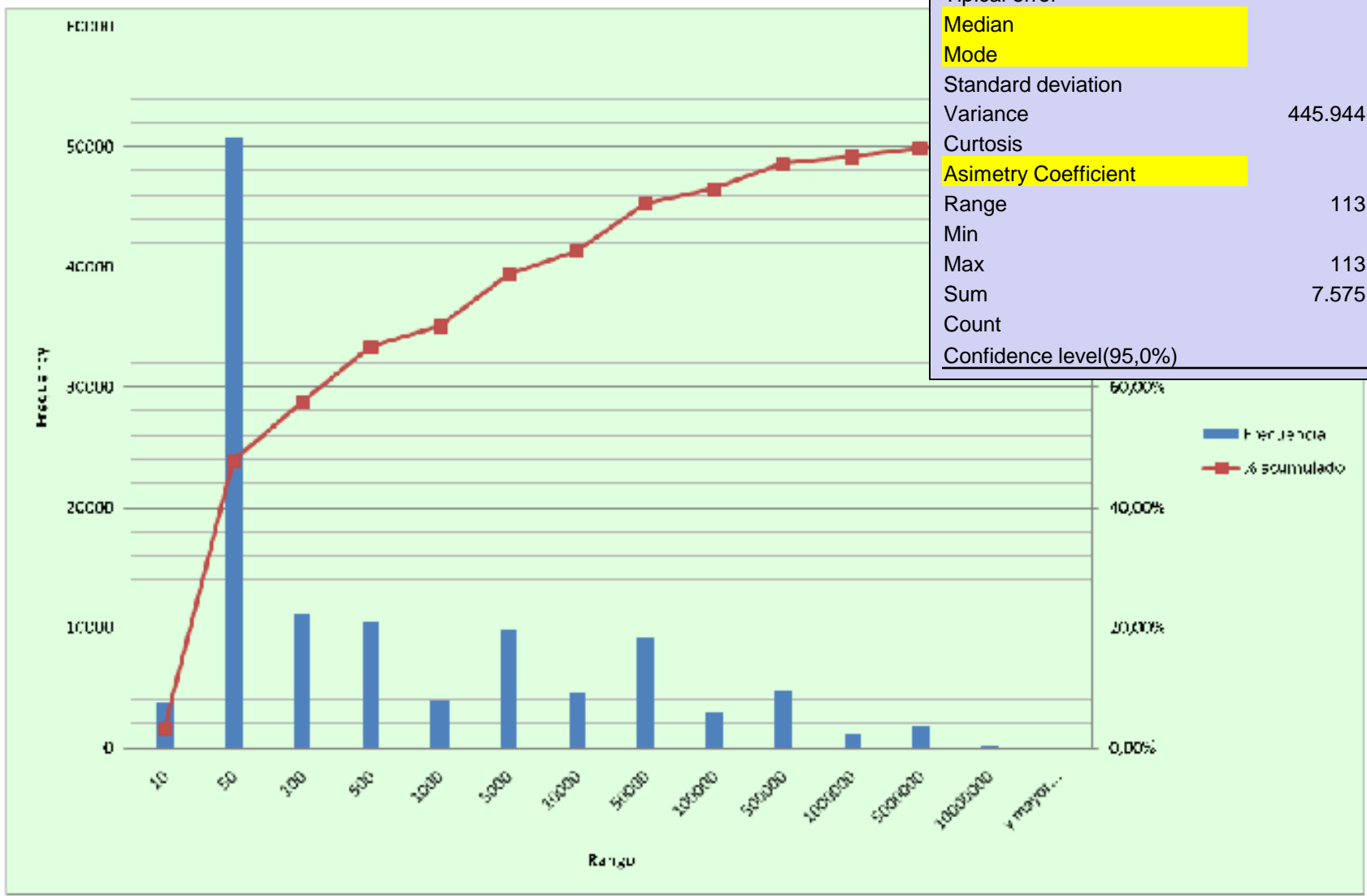


199
797
831



Installation profile Reports

Statistics distribution by files size



Descriptive statistics	
Average	66.199,2
Typical error	1.974,0
Median	64,0
Mode	16,0
Standard deviation	667.790,9
Variance	445.944.731.671,1
Curtosis	15.303,2
Asimetry Coefficient	96,7
Range	113.863.182,0
Min	2,0
Max	113.863.184,0
Sum	7.575.634.950,0
Count	114.437,0
Confidence level(95,0%)	3.869,1



Default Reports

Type	Description	Report_Description
Configuration	Accounting Information from the ACS	Defintions and tracing: Libraries and members of DC, SC, MC and SG definitions; last time and user modifications
	Base Configuration	Definitions and tracing: Name of Source Control Data Set (SCDS), time and user of last modifications and systems involved
	Data Class construct	Atributes of NON-VSAM data sets
		Atributes of VSAM data sets
		Potential overlaping for VSAM data sets
		Potential overlaping for NON-VSAM data sets
		Log of Changes - PS data sets
	Management Class construct	Log of Changes - VSAM data sets
		Atributes definitions
		Highlighted by potential costs
		Potential Overlapping of atributes
	OAM Library Record	Log of Changes
		Optical and Tape Libraries definitions
Storage Class construct	Log of Changes	
	Atributes definitions	
	Potential Overlapping of atributes	
Storage Group construct	Log of Changes	
	Atributes definitions	
		Log of Changes



Default Reports

Type	Description	Report_Description
Use	Active Data Set	Account Information by qualifier - Graph
		Account Information by qualifier and DSORG [Qty., %]
		Compressed and uncompressed files - Graph
		Compressed and uncompressed files. Potential savings
		Days between created and last reference (TOP 100)
		Days between created and last reference. Matching with MC attributes
		DCOLLECT date against last reference. Matching with MC attributes
		Files that not migrate automatically grouped by qualifier
		Small block length
		Storage distribution by Management class - Graph
		Storage distribution by Management class and qualifier
		Storage distribution by qualifier and storage group
		Storage distribution by Storage class - Graph
		Storage distribution by Storage class and qualifier
		Storage distribution by storage group - Graph
		Storage unused in files grouped by quals - Graph
		Storage unused in files grouped by quals and management class
	TOP 100 big data sets	
	Backup Data Set	Account by TOP 100 qualifier
		Account by TOP 30 qualifier - Graph
Account by type of dat set		
Account by type of dat set - Graph		
		TOP 100 big data sets



Default Reports

Type	Description	Report_Description
Use	DASD Capacity Planning	Storage available to migrated but not, by storage group
		Storage distribution on level 0 and level 1
	Migrated Data Set	Files with more recalls
		Life cycle of files
		Life cycle of files - Graph
		Number of recalls by files - Graph
		Percentage of number of migration for files - Shows the one way/recall activities
		Recalls by Management Class
		Recalls by Management Class - Graph
		Storage distribution by TOP 30 qualifier - Graph
		Storage distribution by TOP 30 qualifier, in tape and disk
		Storage Moving
	Storage Moving by Management Class and first quals	
	Storage Moving by qualifiers	
	Storage Group volume	Storage Group Total Capacity and Free Space
Tape Capacity Planning	Tapes distribution and level of use in DUMP, BACKUP y MIGRATION functions	
Volume (from selected SG)	Top 30 lower free DSCBs	
	Total space - Graph	
	Total space, used space, fragmentation index and largest free extent by storage group	
VSAM Association	Volumes atributes (VTOC, Public, Private, Storage, SMS, etc.)	
	VSAM attributes	
	VSAM registers statistics	
	VSAM statistics (splits de CI/CA, freespace)	



Differences with another solutions

- Unexpensive platform and solution
- Deeper details in quals and accountability, you can reach up to the dataset
- Configuration and log of Changes
- More and complete detail information
- Enhanced information due to the integration and relation of all the data
- Easy to exploit the information with standar and unexpensive tool
- Easy delivery of reports according to accountable groups
- Integrated view of storage in SMS environments, HSM tapes, RMM, control-T and others

