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November 14, 2013

2013 GETS Education Program *Special Session*

**AGENCY STORAGE ILLUSTRATIONS
BEFORE AND AFTER TRANSFORMATION**

Housekeeping

Please:

- **Pick up a boxed lunch at the beginning of the session.**
- **Sign the attendance sheet.**
- **Complete your Learning Objectives Evaluation form at the end of the session.**

Agenda

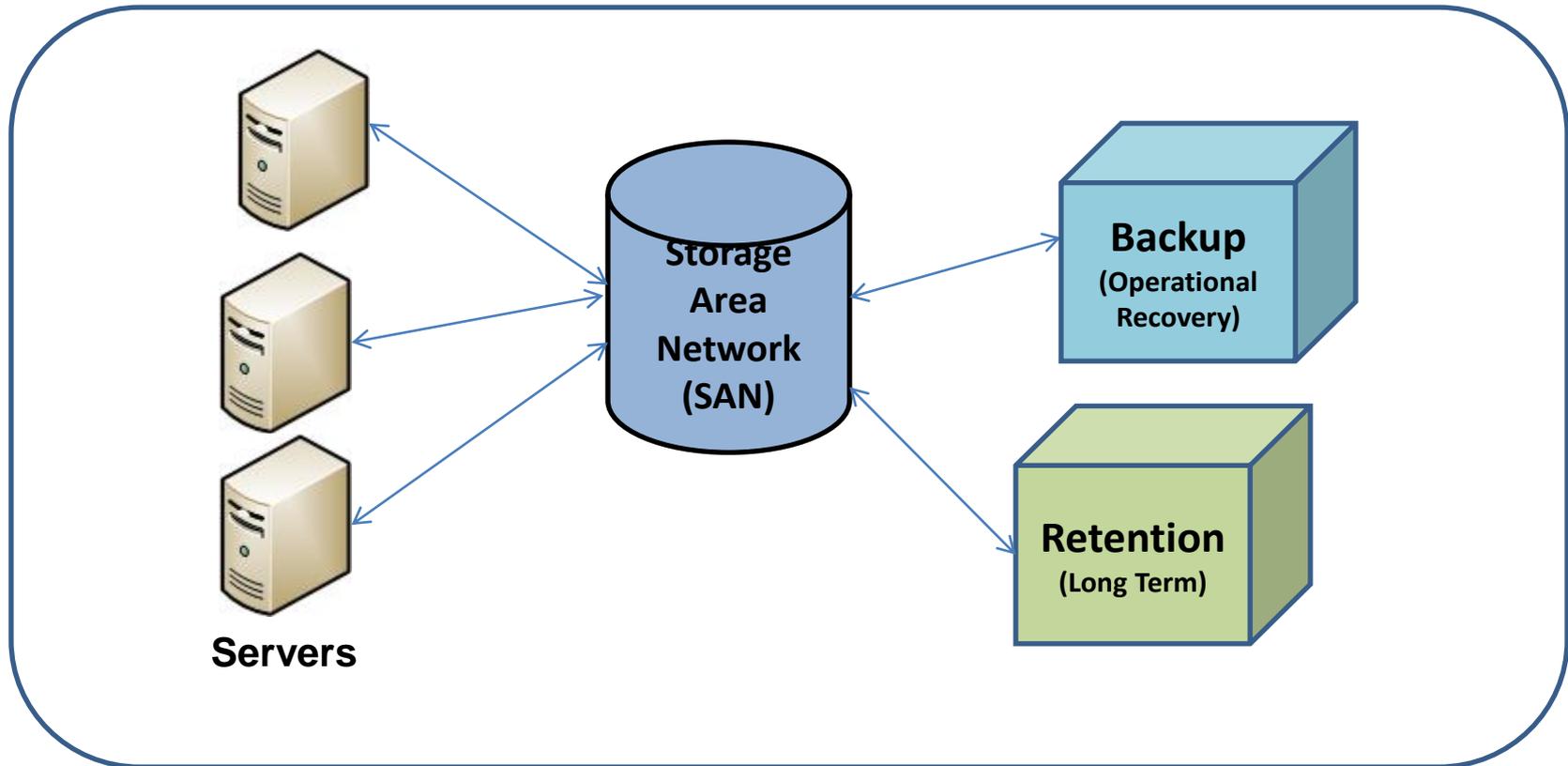
- **Goals for Today's Session**
- **What is Storage? What is Backup? What is Archive?**
- **Current Agency Backup and Archive Practices and Financial Implications**
- **Benefits of New GETS Enterprise Backup and Recovery Solution**
- **Agency Storage Illustrations**
- **Implementing Storage Best Practices**
- **Prep for Backup and Recovery Roadshow**
- **Panel Discussion on Lessons Learned**
- **Session Summary and Next Steps**
- **Addendum**

Goals For Today's Session

Why should you be concerned?

- New storage methodology highlights challenges of current state data management and new opportunities to:
 - Implement industry best practices
 - Enforce Retention Policies
 - Archive data for long-term retention in a cost-effective way
 - Benefit from new technology
- Continuation of current practices will result in **SIGNIFICANTLY INCREASED** enterprise storage costs
- Best practices and a *new way of thinking about storage* will help Agencies control costs as more and more information is digitized and stored

What is SAN, Backup, and Archive?



SAN	\$\$\$ Highest cost, active storage
Backup	\$\$ Moderate cost, operational recovery
Archive	\$ Lowest cost, long term retention

Current Practice

Backup in Legacy Environment:

- Daily Incremental Backup
- Full Weekly Backup
- Full Monthly Backup
- Full Yearly Backup
- 17 Backup Copies of the entire environment
 - 1 Yearly Backup +12 Monthly Full Backups + 4 Weekly Full Backups

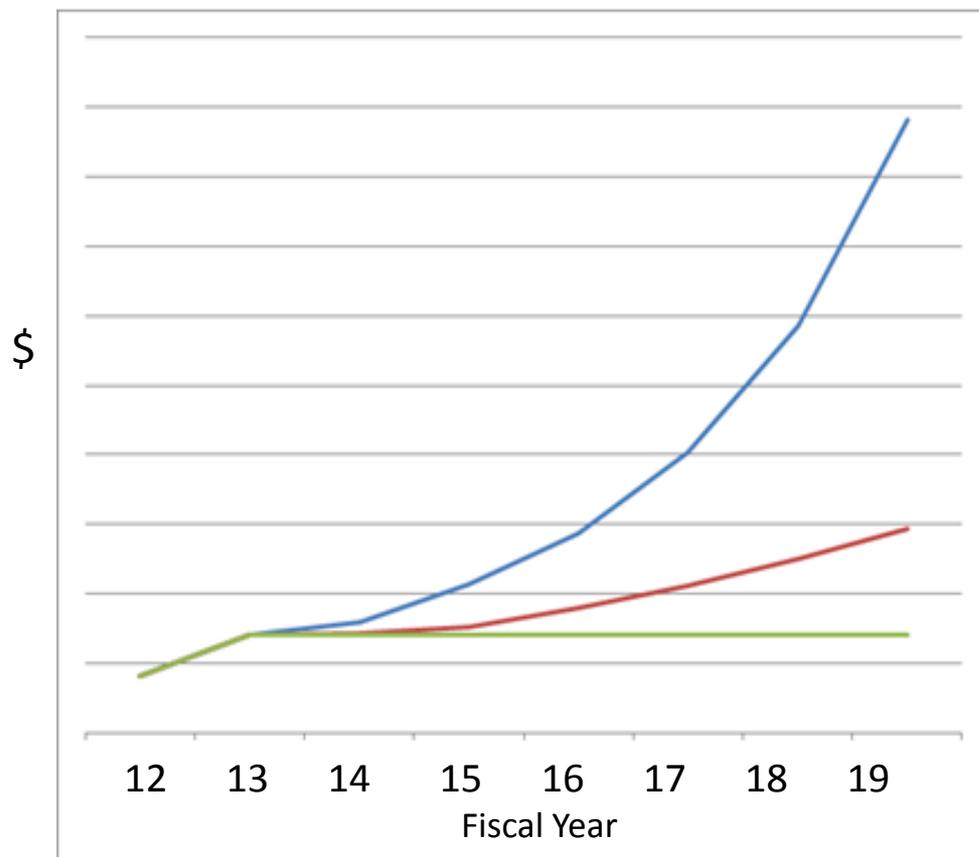
Archiving in Legacy Environment:

- Does not match Retention Schedules (2999!)

Issues:

- Full backups take too long, sometimes fail
- Backup slows application performance
- Legacy best practices do not apply to transformed environment
- Significant financial impact
- Outdated retention creates unnecessary Agency risk

Enterprise Transformed Backup Costs



Blue = Current Practices on Transformed Environment, W/O Best Practices

Red = Best Practices on Transformed Environment + 20% Storage Growth

Green = Best Practices on Transformed Environment + 0% Storage Growth

Tivoli Storage Manager

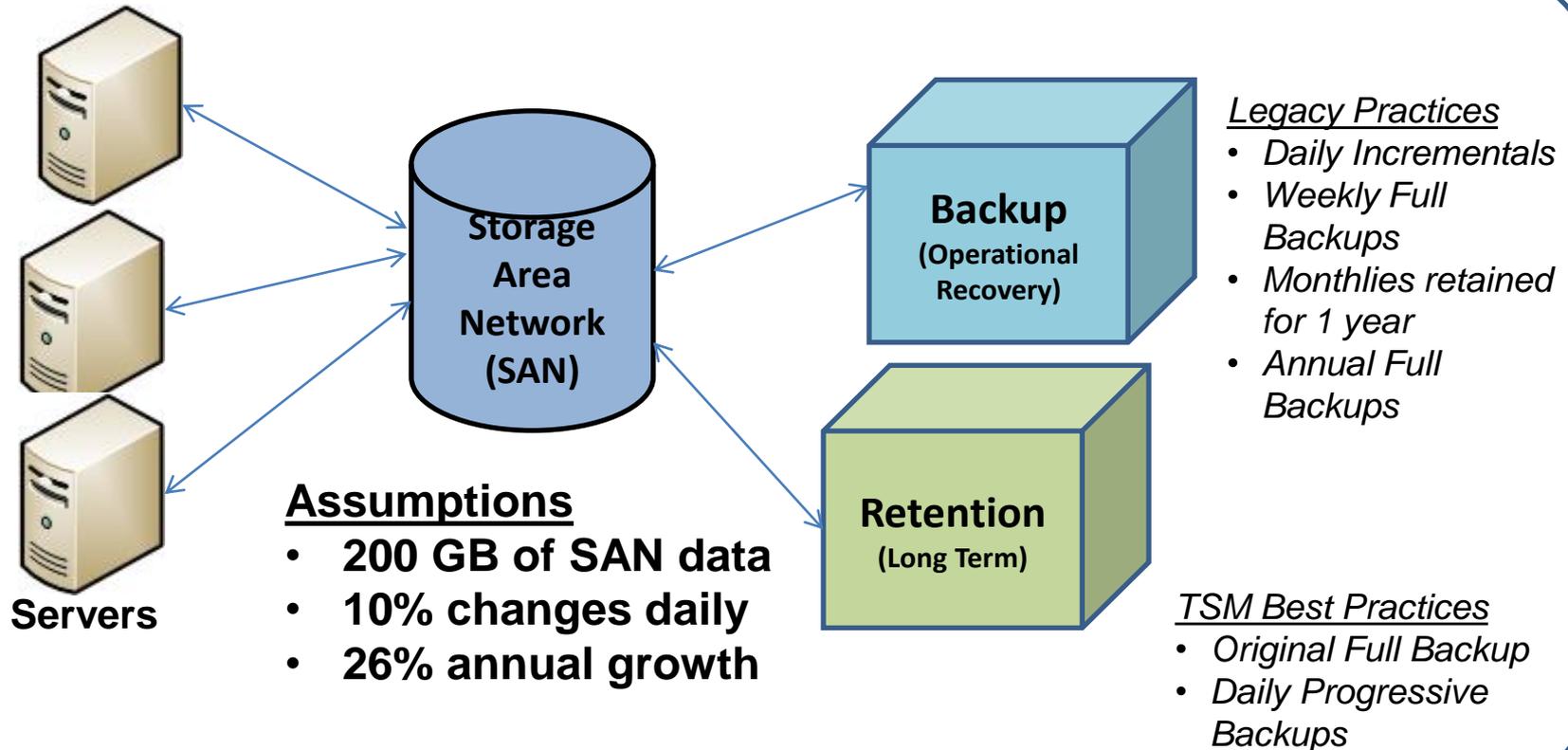
Magic Quadrant

Figure 1. Magic Quadrant for Enterprise Backup/Recovery Software

- *New way of thinking about storage*
- Tivoli Storage Manager (TSM) is an industry-leading storage system designed for large enterprises (Source: Gartner)
- Benefits include:
 - High Performance – more application up time
 - Reliability – more complete restores in the event of data loss
 - Data reduction – less data to store
 - Security – data encryption
 - Industry Confidence

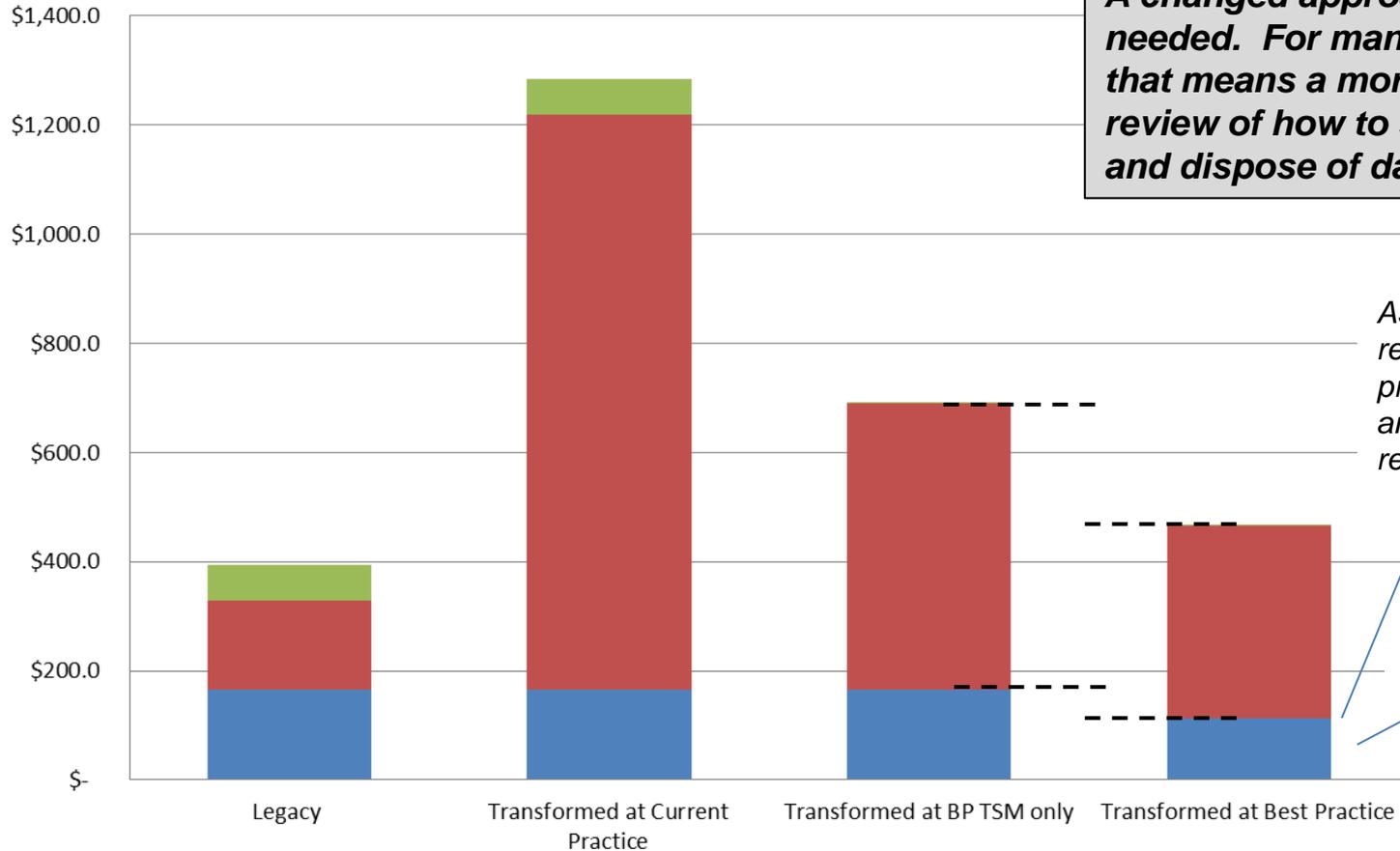


Hypothetical Illustration



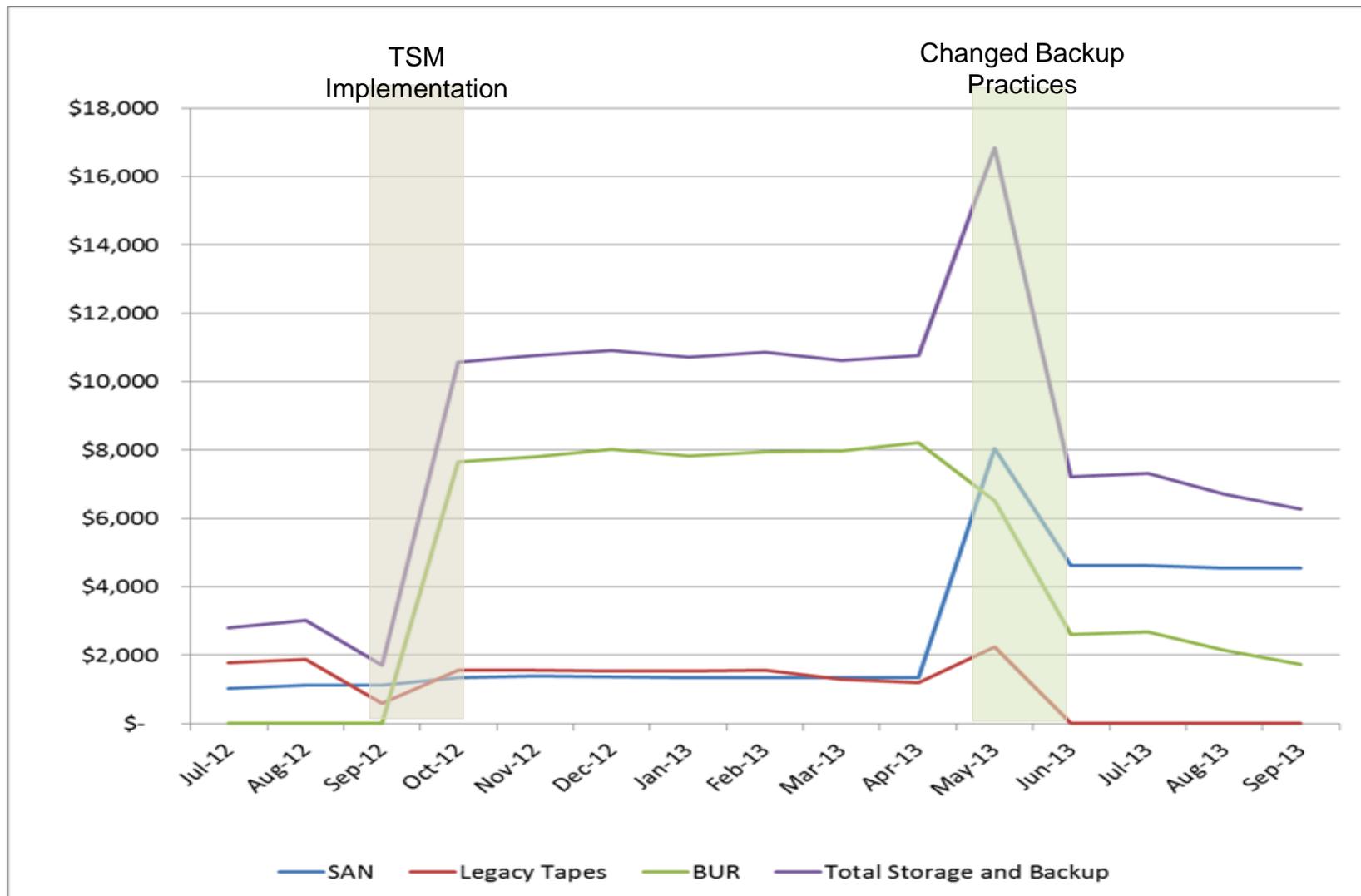
Hypothetical Illustration

Monthly Cost Comparison

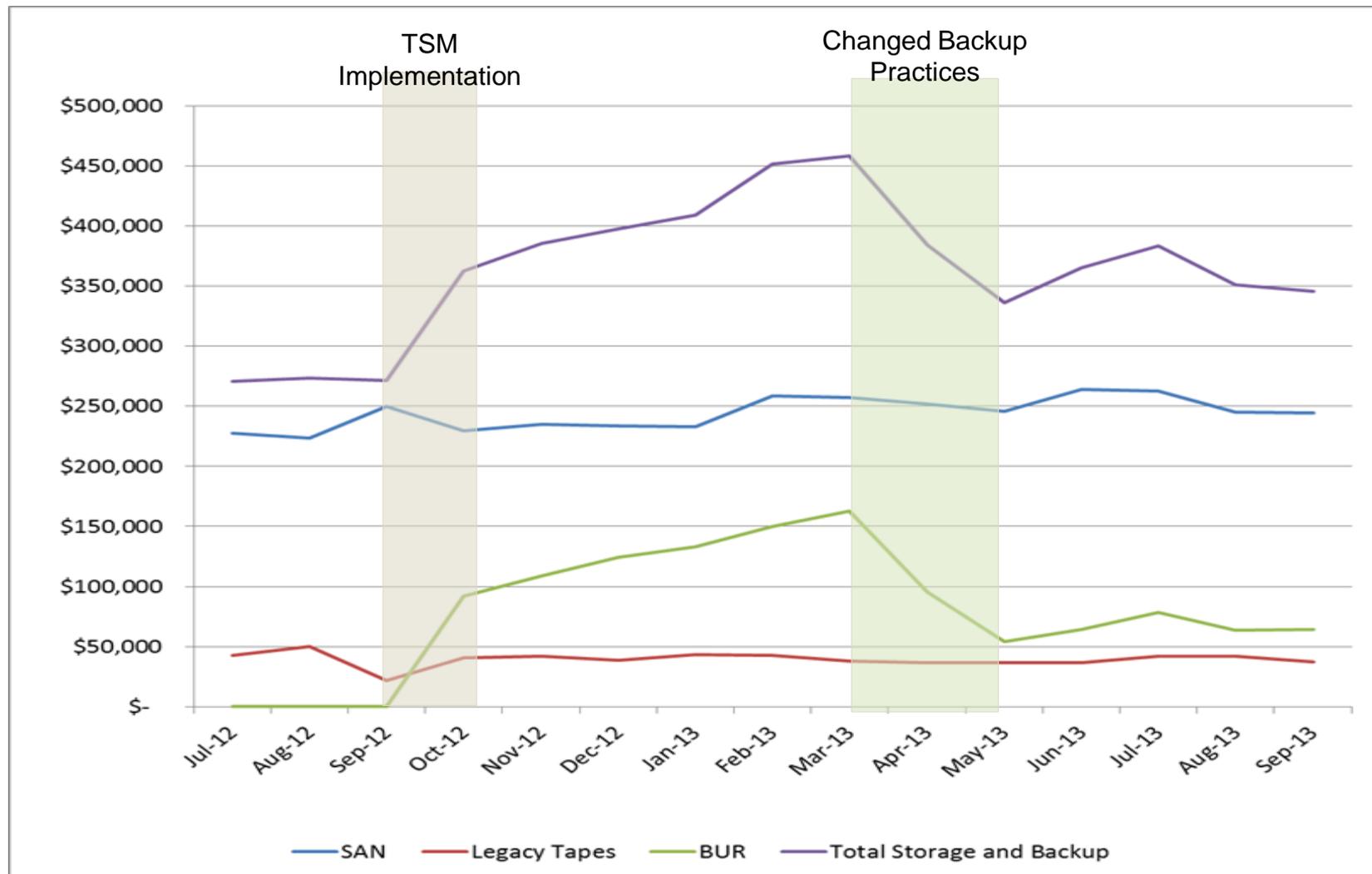


Archive	15 Tapes	15 Tapes	20.4 GB	15.3 GB
BUR	34.3 Tapes	1,489 GB	740 GB	499 GB
SAN	204 GB	204 GB	204 GB	137 GB

Actual Billing Example



Actual Billing Example



How Does the Agency Avoid SIGNIFICANTLY INCREASED Storage Costs?

Implement Best Practices

Agency Records Management Program

- **Communication among Agency Business Owners, Finance staff, Records Retention Staff and IT staff**
 - Safeguards agency-critical information
 - Ensures efficient regulatory compliance
 - Controls the creation and growth of records
 - Reduces operating costs

How Does the Agency Avoid SIGNIFICANTLY INCREASED Storage Costs?

Implement Best Practices

Backup Best Practices – Operational Recovery

- Use TSM as designed
- Use for recovery of data only, *not long-term retention*
- Implement new, recommended backup schedules (*to be discussed on slide 15 – Backup and Recovery Roadshow*)

Archive Best Practices - Long Term Retention

- Eliminate Legacy Tapes as soon as reasonably possible
- Use for data with long term retention requirements
- Set up expiration date for archived data at the end of the retention period based on retention schedule
- Move infrequently used data to long term retention and delete from other storage locations

Best Practices will be the default, but agencies can request exceptions

How Does the Agency Avoid SIGNIFICANTLY INCREASED Storage Costs? *Implement Best Practices*

General Storage Best Practices

- Remove personal games, music (e.g. MP3) files, photograph (e.g. JPEG, GIF) files, video files, etc.
- Delete old or unnecessary email accounts
- Delete redundant data (e.g. multiple copies of database)
- Move data used infrequently to long term retention and *delete* from SAN

Backup and Recovery Roadshow



Objectives

- Information to build Agency trust in new solution
- Backup and Recovery Roles and Responsibilities for all partners
 - *Agency attendees should include Agency Retention Officer, Business Owners, CIO, DBAs, Application Managers*
- Review enterprise backup solution benefits and capabilities
- Review existing Agency Backup Policy
- Review financial impact of Agency storage decisions
- Implement Agency backup schedules based on best practices and new way of thinking about storage
 - *Operational recovery of data and long term retention*

Timeline: October 21, 2013 – mid-January 31, 2014, all GETS Agencies

BUR Roadshow Schedule

Agency	Day, Date	MEETING TIME	Location
DBHDD	12/17, TUES	1PM	DBHDD, 2PT, CNF RM 23-456
DCH			
DDS	11/22, FRI	10AM	DDS, CONYERS, IT CONF ROOM
DHS			
DJJ	12/3, TUES	10AM	TBA
DNR	11/19, TUES	1PM	DNR, JOHN'S OFC
DOAS	12/4, WED	2PM	DOAS, WT, 1816A
DOR			
DPH			
GBI	11/19, TUES	1030AM	GBI
GDC	12/4, WED	930AM	GEMA, 5TH BUILDING, 2ND FLOOR
GTA	12/5, THUR	230PM	GTA
OPB	11/20, WEDS	2PM	OPB
SAO	12/11, WEDS	9AM	SAO CONF ROOM 1620

Panel Discussion

- John Barmann
Dept of Administrative Services
- Jeff Smith
Dept of Driver Services
- Tor Yang
Gwinnett County

Summary and Next Steps

Be Informed . . .

- Understand financial implications of current practices versus implementing best practices and a new way of thinking about storage
- Understand risks of current practices

Take Action . . .

- Implement best practices and verify that they are in place
- Translate Agency Retention Policy into Archive Strategy
- Prep for Agency BUR Roadshow by reviewing data management needs
- Send the right staff to the Agency BUR Roadshow meeting
- Continue to share *Lessons Learned* for the benefit of the enterprise

Please:

- **Sign the attendance sheet.**
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**THANK YOU FOR YOUR
PARTICIPATION!**

QUESTIONS?

ADDENDUM

Glossary



Archive	Long term data storage based on Agency's retention schedule
Backup and Recovery (BUR)	Regular occurrence of copying active (SAN) data to a separate system for preservation and restoration if data are lost or damaged
Legacy Environment	Location of any non-transformed server in GETS
Order Now!	GETS Service Catalog
Resource Unit (RU)	"Unit of measure" for IT services provided by GETS
Retention	The length of time records should be kept in a certain location or form for administrative, legal, fiscal, historical, or other purposes*
Storage Area Network (SAN)	Storage for active data used daily by applications and file servers
Transformed Environment	GETS hosted data center environment (GETS HE)
Tivoli Storage Manager(TSM)	The backup and recovery technology for the State of Georgia transformed environment

*Source: *Glossary of Archival and Records Terminology*, Society of American Archivists.