

# SNAPSHOT-BASED BACKUP AND DATA PROTECTION

WEBTECH SERIES

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MARCH 30, 2011

## Snapshot-based Backup and Data Protection

Backup and restore in Microsoft Exchange, SQL and SharePoint Server environments doesn't have to be complicated or expensive. See a new way to backup and protect your data more easily and efficiently using snapshot technology. This solution is also useful in VMware or Microsoft Hyper-V environments.

Improve performance and anticipate your future scalability requirements. An added bonus will be writable clone technology to reduce the capacity requirements within production environments.

By attending this webcast, you'll learn how to:

- Provide an alternative backup and data protection strategy for Microsoft Exchange, SQL and SharePoint Server
- Demonstrate benefits of application consistent snapshots
- Simplify application administration by saving time and cost

# SNAPSHOT-BASED BACKUP AND DATA PROTECTION

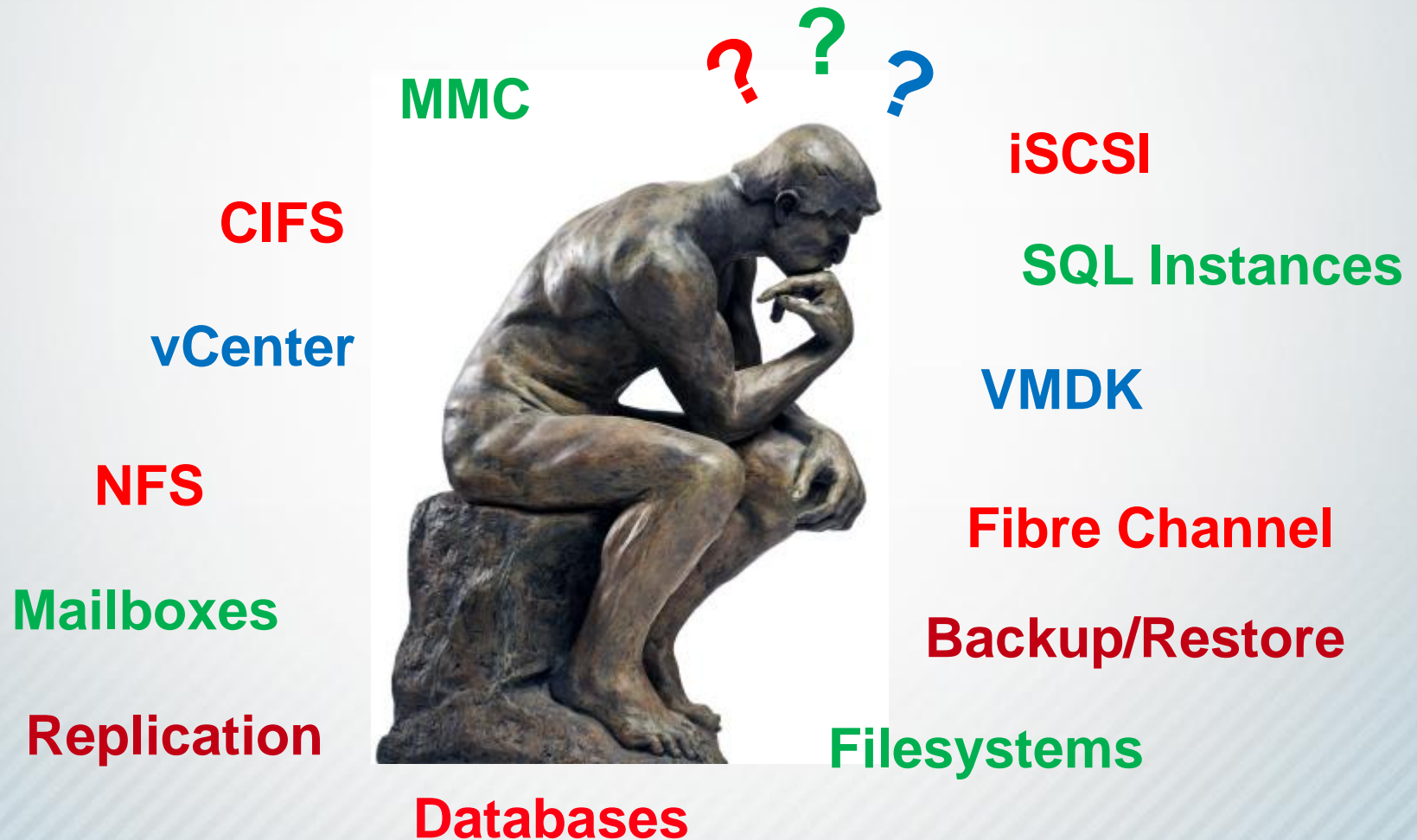
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# THE BACKUP AND DATA PROTECTION DILEMMA



- Meeting backup window – especially given the explosive data growth
- Meeting stringent recovery time objectives (RTO) and recovery point objectives (RPO)
- Application consistent, point in time recovery
- Leveraging Microsoft's tools to ensure supportability and consistency



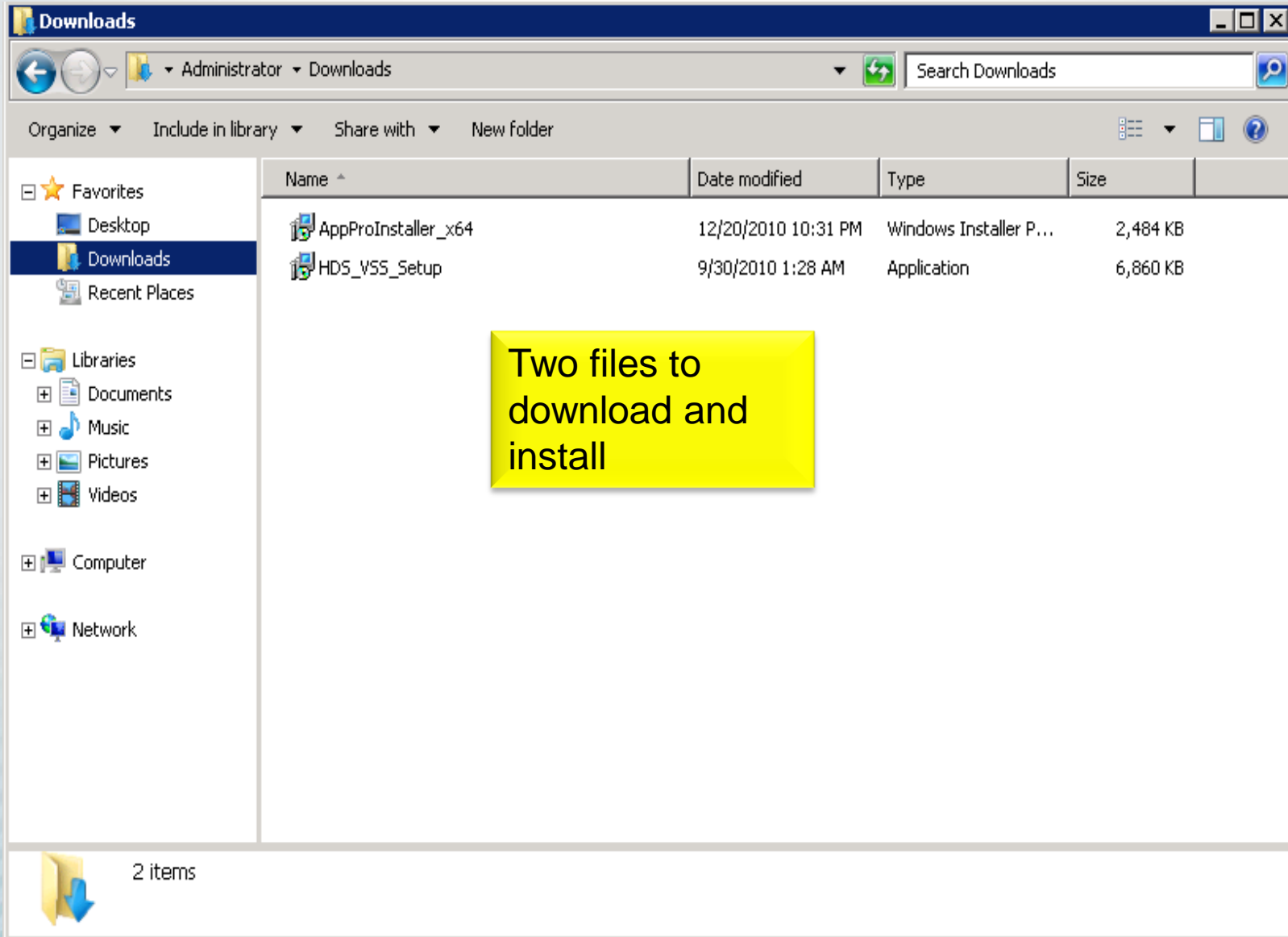
- **Data protection challenges for Microsoft environments**
  - Data capacity is growing at 50% plus annually
  - Traditional backup and recovery is no longer an option
  - Downtime is not an option
    - RPO objectives protect against threats
    - RTO objectives ensure continued operations
  
- **Customers expect seamless support for Microsoft applications**
  - Tight integration with VSS framework
  - Support for Microsoft Management Console (MMC)
  
- **Scalability and flexibility to migrate data**
  - Separation of Microsoft application datastores from servers to networked storage topology

# HITACHI APPLICATION PROTECTOR SOFTWARE

*Easy-to-use application consistent snapshot software for backup, recovery and data protection of Microsoft application environments.*



# First Look: Windows User Interface



# Customer Installable Setup Wizard

Really easy to use!

License activation key required (purchase separately).

Hitachi Application Protector Setup

Welcome to the Hitachi Application

Hitachi Application Protector Setup

End-User License Agreement

Please read the following license

Software Lic

Unless otherwise provided for  
You and Hitachi Data System  
Expressway, Santa Clara, CA  
Terms ("Software License  
purchased by You ("Softwa  
License Terms under which  
Capitalized terms will have  
below.

I accept the terms in the Licen

Print

Hitachi Application Protector Setup

Installation Settings

Enter a valid License Key and click Next.

Application Protector License Key

Back Next Cancel

# Example: MS Exchange (MSE) Datastore

The screenshot displays the AppPro application window. On the left, a tree view shows the hierarchy: AppPro > AppPro for Exchange > Microsoft Exchange Server\Microsoft Information Store\ISV-VM101 > Mailbox Database\012183756 > VM101-MB. The 'VM101-MB' folder is selected and circled in red. A yellow callout box points to it with the text: "Select Exchange datastore or log file to backup via snapshot".

The main pane shows the 'Snapshots' tab for 'VM101-MB'. A table lists previous snapshots, circled in red. A yellow callout box points to it with the text: "List of previous snapshots of selected data".

Snapshot name	Time	Mounted	Snapshot Set Id	User
ISV-VM101_VM101-MB...	2011-01-05 11:43:53		{3446594a-b343-44cb-a...	ISV-V
ISV-VM101_VM101-MB...	2011-01-05 11:43:19		{473ea34f-6665-4f89-99...	ISV-V

Below the snapshots, the 'Volumes' tab is active, showing a table of affected volumes, also circled in red. A yellow callout box points to it with the text: "Logical location of executed snapshots".

Volume Name	Affected Volume
\\?\Volume{abe23aff-07e5-11e0-9d6a-00505693...}	H:\
\\?\Volume{abe23b05-07e5-11e0-9d6a-00505693...}	J:\

On the right, the 'Actions' menu is open, with 'Create Snapshot...' and 'Create Schedule...' circled in red. A yellow callout box points to the menu with the text: "You can also select action from menu here". Other visible actions include 'Save as...', 'Print...', 'View', 'Refresh', 'Help', 'Revert Snapshot', 'Mount Snapshot...', and 'Delete Snapshot'.

# Example: Setup MSE Datastore Snapshot

The screenshot shows the AppPro application window. In the left-hand tree view, the 'Mailbox Database 1012183756' is selected and circled in red. The main content area displays a message: 'There are no Snapshots created for the selected entity. Please select 'Create Snapshot' using the Actions pane, Menu, or using the Pop-up Menu option to create protection points.' Below this message is the Hitachi logo and the slogan 'Inspire the Next'. The right-hand 'Actions' pane is visible, showing options like 'Create Snapshot...'. In the foreground, a 'Create Snapshot' dialog box is open, also circled in red. It contains the following text: 'SnapshotName: ISV-VM101\_Mailbox Database 1012' and 'Description: Snapshot Request Created by ISV\'. There are 'OK' and 'Cancel' buttons at the bottom of the dialog.

Exchange  
datastore selected  
via “right-click”  
mouse button

“Adhoc” snapshot pop-up  
window appears.

This is for “one-time”  
snapshot purposes; as  
opposed to scheduling

# Example: Schedule MSE Datastore Snapshots

AppPro

File Action View Help

AppPro for Exchange

Microsoft Exchange Server\Microsoft Information Store\ISV-VM101

Mailbox Database 1012183756

VM101-MB

Mailbox Database 1012183756

Snapshots Schedules Operations

Actions

Mailbox Database 1012183756

Create Snapshot...

Create Schedule...

Save as...

Print...

View

Refresh

**Create Schedule**

Schedule Name: Daily Snapshot

Descriptor: Exchange Backup

Settings

One Time

Daily

Weekly

Monthly

Start: 1/27/2011

Recur Every: 1

Sunday

Thursday

One Time

Start: 1/27/2011 1:00:00 AM

Day 1

Sunday

Jul  Oct

Feb  May  Aug  Nov

Mar  Jun  Sep  Dec

Create Cancel

Action: In progress...

select Pop-up

For scheduling Weekly snapshots, at selected time interval

Or schedule Monthly snapshots, at selected time interval

# Example: MS SQL Server and MOSS

The screenshot shows the AppPro application window. The left sidebar contains a tree view with nodes for 'AppPro for SQL', 'AppPro for MOSS', 'ISV-VM103', and 'All Sites'. The main pane is titled 'Server Info' and displays the following details: 'Is Clustered: NO', 'Server Name: ISV-VM103', and 'Operating System Version: Microsoft Windows'. The right pane is titled 'Actions' and lists 'Save as...', 'Print...', 'View', 'Refresh', and 'Help'. Two red circles highlight the 'AppPro for MOSS' node in the tree and the 'AppPro for MOSS' header in the actions pane. A yellow callout box on the left explains the layering of SharePoint over SQL, and another yellow callout box on the right identifies the actions as SharePoint actions for filesystem view.

Microsoft Office SharePoint Server is layered over SQL Server. Snapshot either SQL "instance", or SharePoint file/folder

SharePoint actions for filesystem view

## Volume Shadow Copy Service (VSS):

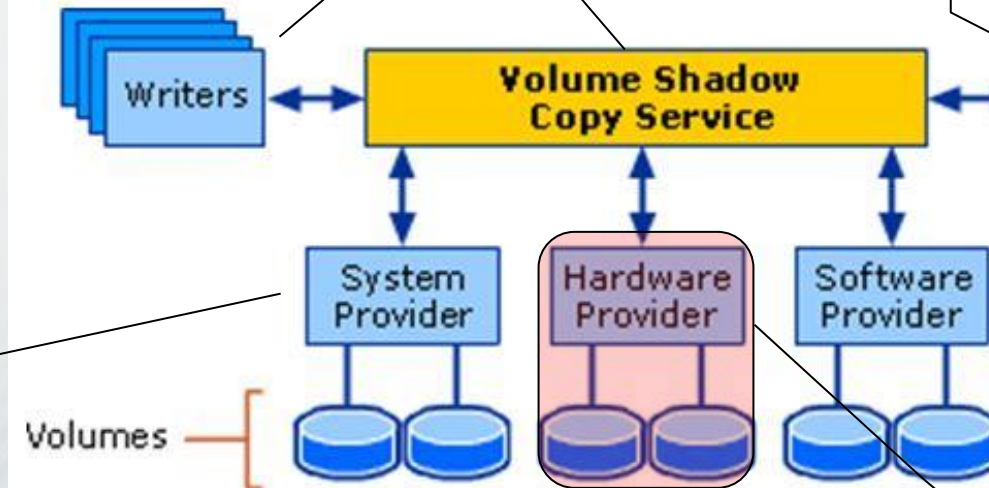
Windows operating system framework that ensures all VSS components properly work together.

### VSS writer:

Guarantees a consistent data set to back up. Typically, an application such as Exchange Server.

### VSS requester:

Creates shadow copies. Typically, this is the backup application.



### HDS Requester:

Application Protector

### HDS HW Providers:

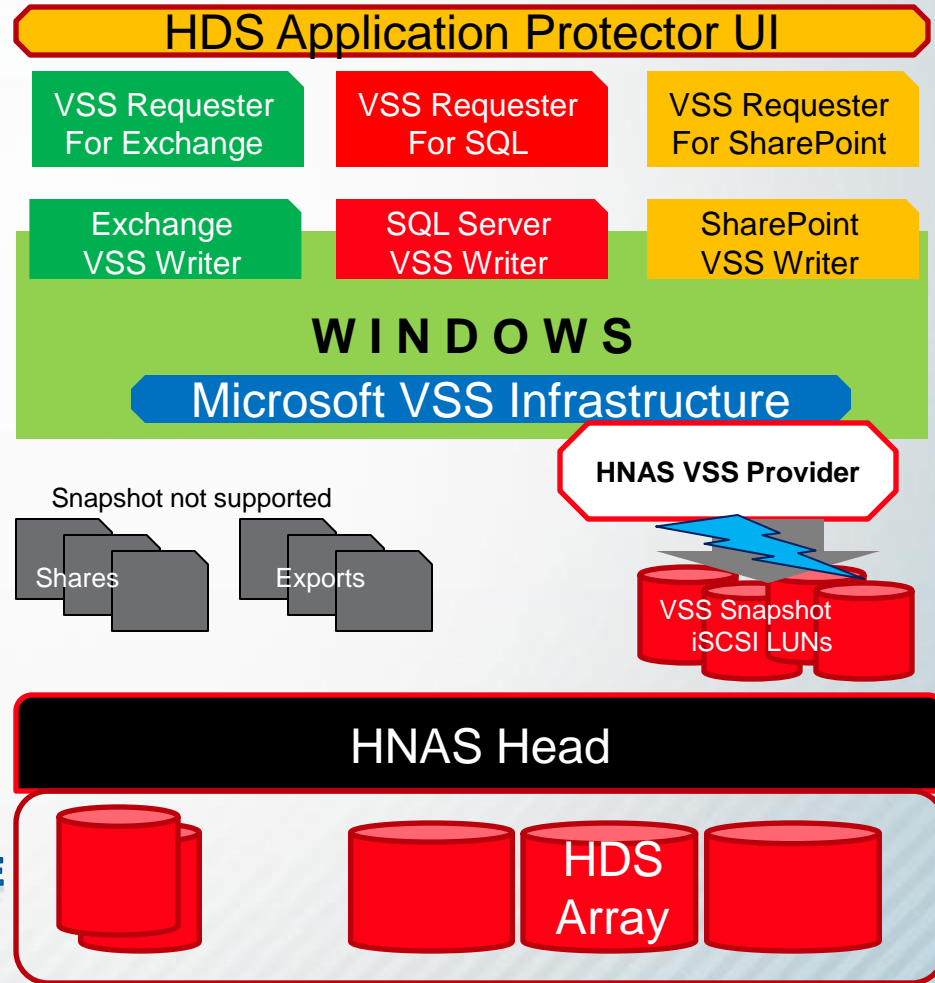
Hitachi NAS (HNAS)

### VSS provider:

Creates and maintains the shadow copies. This can be system, hardware or software based.

# ARCHITECTURE DIAGRAM FOR APPLICATION PROTECTOR, VERSION 1.0

- Based on Microsoft VSS
  - Uses the HNAS VSS provider
- Support is limited to
  - iSCSI Volumes
- Does not support
  - Shares
  - Exports
- Does not support
  - Array level snapshot



## **Hitachi NAS Platform (HNAS)**

- Midrange models 3080 or 3090
- High-performance models 3100 or 3200

## **Hitachi NAS Application Protector Enablement Kit**

- VSS provider and setup wizard
- iSCSI protocol license (for HNAS LUNs)
- File Clone (aka JetClone) software license

## **Microsoft Windows Server 2003 or 2008**

## **Application Protector for Microsoft Management Console (MMC)\***

- Installation wizard for application protector
- MS Exchange Server (2007 and 2010) MMC snap-in
- MS SQL Server (2005 and 2008) MMC snap-in
- MS SharePoint Server (2007 and 2010) MMC snap-in

\*Note: GUI menu and command line interface (CLI) supported.

## **Became available on March 8, 2011**

- Microsoft Exchange, SQL Server and SharePoint snapshots supported; including within VMware ESX 4.1
- File Clones (via JetClone) supported within Hitachi NAS
- Separately ordered software licenses required

## **Fast and space efficient pointer-based snapshots**

- Saves storage space
- Saves time
- Saves money

**Very easy to use and implement – less than 15 minutes!**

# QUESTIONS AND DISCUSSION

## April

- ***Enterprise Vault adapter for Hitachi Content Platform***, April 20, 2011 at 9am PT, 12pm ET
- ***Data Center Transformation***, April 27, 2011 at 9am PT, 12pm ET

Please check [www.hds.com/webtech](http://www.hds.com/webtech) for:

- Link to the recording, the presentation and Q&A (available next week)
- Schedule and registration for upcoming WebTech sessions

**THANK YOU**