

ICTF Nexus Update

Matthew Gaskin / Tom Mill
Nexus Senior System Specialists



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What are we going to talk about?

1. History of Nexus and Exchange 2007
2. What lessons have we learned?
3. Why migrate to Exchange 2010?
4. What is the Exchange 2010 design?



History of Nexus and Exchange 2007



Lessons Learned

- Interactions with other systems (SSO OAK LDAP, Oxmail, Webreg)
- Large messages
- Out-of-scope functionality requests
- User unfamiliarity
- Black-holed leavers' mailboxes
- Large quota handling
- BlackBerry contracts
- Custom APIs



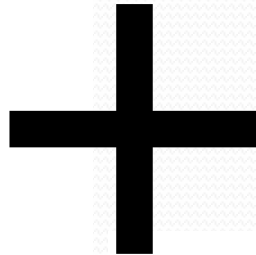
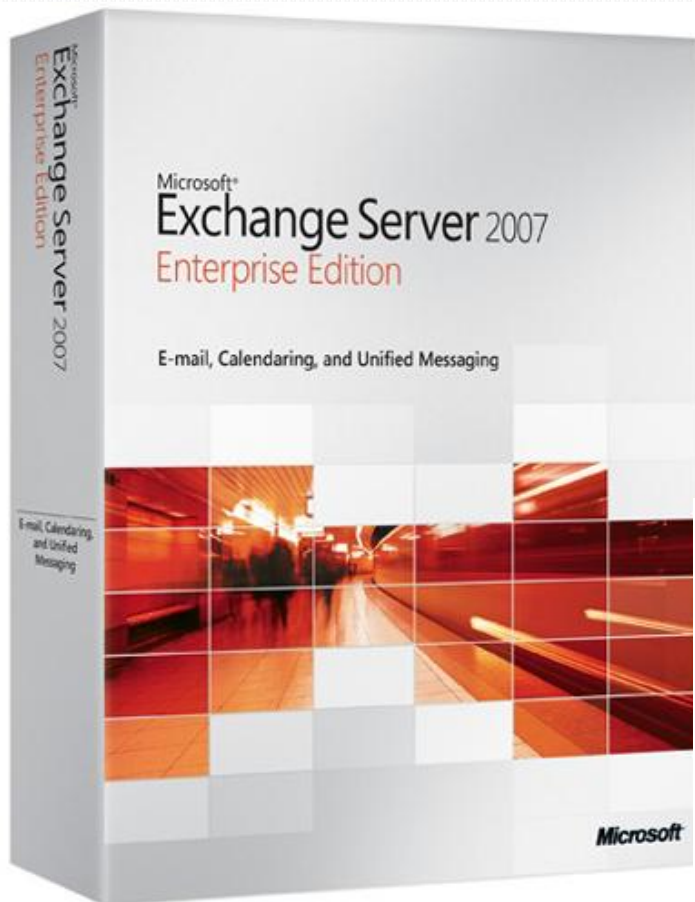
Lessons Learned Custom APIs

APIMethodsUsedByRegistration.xls [Compatibility Mode] - Microsoft Excel

Method name	Created By	Last Edited By	Explanation	Where used	Intentional use	Inputs	Outputs	Notes
N.B. Webreg = standard Webreg								
Webreg for Reg team is "Webreg plus" with extra fields/functionality								
ActiveSyncInfo.aspx	Pete Jones	Pete Jones	Recent activesync activities	In Webreg and /self/nexus	Possibly /ITSS as	Username		General statistics on the
AddDelegation.aspx	Pete Jones	Pete Jones	Delegate mailbox	By Dave and Beth directly	Webreg for Reg	Username, I	-	Mainly with t
ConvertMailUserToUser.aspx	Alexis O'Connor	Alexis O'Connor	Converts a mailuser to a user (in Exchange / AD).			Username	-	Intended to r
ConvertUserToMailUser.aspx	Alexis O'Connor	Alexis O'Connor	Converts a user to a mailuser (in Exchange / AD).			Username, E	-	Intended to r
CreateProjectUser.aspx	Pete Jones	Pete Jones	Create a "project" e-mail account	Not used (crashes).		Username, I	-	The correspo
CreateResourceMailbox.aspx	Alexis O'Connor	Alexis O'Connor	Create a resource (room / equipment) mailbox.			Name, Displ	-	
CreateUser.aspx	Pete Jones	Pete Jones	Create a primary / secondary e-mail	In Webreg/Reg team interface. Also used by overnight autoprovisio		Username, I	-	The function
DeleteMailbox.aspx	Pete Jones	Pete Jones		By Dave and Beth directly or processes from Reg DB		Username	-	Detaches the
DisableDelivery.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username	-	Only mail fro
EnableDelivery.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username	-	Enables mail
EnableMailbox.aspx	Pete Jones	Pete Jones		By Dave and Beth directly		Username	-	Enables a ma
FolderUsageInfo.aspx	Pete Jones	Pete Jones	List of folders and counts and di	In Webreg		Username	-	Names of folders, size &
GetOOFA.aspx	Alexis O'Connor	Alexis O'Connor	Gets the 'Oof' (out-of-office) message / setting for a specified user.			Username	-	ne,EndTime,[Internal]Ex
ListDelegation.aspx	Pete Jones	Pete Jones	Showing delegation within mail	In Webreg		Username	-	Permissions that user h
LockMailbox.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username	-	Revokes use
LockUser.aspx	Pete Jones	Pete Jones		By Dave and Beth directly		Username	-	Disables the e
MailboxesAtQuota.aspx	Alexis O'Connor	Alexis O'Connor	Reports on mailboxes at 'IssueV	In use at ITSS interface and e-mail alerts to ITSS.		-	-	Information on each ma
RemoveAutoForwarding.aspx	Alexis O'Connor	Alexis O'Connor	Removes auto-forwarding on a mailbox.			Username	-	Removes the
RemoveDelegation.aspx	Pete Jones	Pete Jones		By Dave and Beth directly		Username(I	-	
RemoveUser.aspx	Pete Jones	Pete Jones		In overnight processes.		Username	-	Removes the
SetEmailAddress.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username, I	-	
SetExDirectory.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username	-	Hides the spe
SetForwarding.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface	https://register.oucs.ox.ac.uk/self/n	UserName,	-	
SetGAL.aspx	Pete Jones	Pete Jones		Can be used directly but not used.		Username, F	-	Sets various f
SetOOFA.aspx	Pete Jones	Alexis O'Connor		By Beth and Dave directly. Maybe Webreg for Reg t	For ITSS interf	Username, S	-	
SetQuota.aspx	Pete Jones	Pete Jones		In use at ITSS interface and Webreg for Reg team		Username, C	-	
SetResourceDelegates.aspx	Alexis O'Connor	Alexis O'Connor	Sets the resource delegates on an existing resource mailbox.			Mailbox, De	-	
SetSPAMFilter.aspx	Pete Jones	Pete Jones		Currently in use at /self/nexus		Username, S	-	
SetValidEmailAddress.aspx	Pete Jones	Pete Jones	Set preferred email address	Currently in use at /self/nexus		Username, F	-	
SharePhone.aspx	Pete Jones	Pete Jones		Experimental feature (at the Exchange side) to enable contacts to ap		Username	-	Grants 'Revie
UnlockMailbox.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username	-	Grants use of
UnlockUser.aspx	Pete Jones	Pete Jones		By Dave and Beth directly		Username	-	Enables the a
UnSetExDirectory.aspx	Pete Jones	Pete Jones		Webreg for Reg team interface		Username	-	Sets the spec
UnSharePhone.aspx	Pete Jones	Pete Jones		See 'Where used' for SharePhone.aspx.		Username	-	Revokes 'Rev
UpdateUserExpiry.aspx	Pete Jones	Pete Jones		Webreg. Also called by Reg DB		Username, I	-	Specify when
UserInfo.aspx	Pete Jones	Pete Jones	General information about the U	In Webreg and /self/nexus		Username	-	Less times, forwarding ir



Why migrate to Exchange 2010?



Why migrate to Exchange 2010?

- Better OWA
- Improved storage model



The image shows a screenshot of the Outlook Web App (OWA) interface. The browser window displays the URL <https://mail.exchangelabs.dk/owa/>. The interface includes a navigation pane on the left with folders like 'Inbox (22 items)', 'Drafts (1)', 'Sent Items', 'Junk E-Mail', and 'Deleted Items (1)'. The main content area shows a test message from 'Michella Walther Kruse' with the subject 'This is a test' and the body text 'Let's plan for a meeting sometime next week.' Below the message, there is a security warning: 'Security (show explanation)' with three radio button options: 'This is a public or shared computer', 'This is a private computer', and 'Use the light version of Outlook Web App'. The third option is selected and circled in blue. Below the security warning are input fields for 'User name:' and 'Password:', and a 'Sign in' button. A message at the bottom of the page reads: 'The user name or password you entered isn't correct. Try entering it again.' The footer of the page states 'Connected to Microsoft Exchange © 2009 Microsoft Corporation. All rights reserved.' The screenshot also features several logos: Ubuntu, Apple, and Windows, along with a penguin mascot.

Why migrate to Exchange 2010?



[Docs] [txt|pdf] [draft-crispin-ima...] [Diff1] [Diff2] [Errata]

Obsoleted by: [3501](#)

Network Working Group
Request for Comments: 2060
Obsoletes: [1730](#)
Category: Standards Track

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University of W
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INTERNET MESSAGE ACCESS PROTOCOL - VERSION 4rev1

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization process and status of this protocol. Distribution of this memo is unlimited.

Abstract

The Internet Message Access Protocol, Version 4rev1 (IMAP4rev1) allows a client to access and manipulate electronic mail messages on a server. IMAP4rev1 permits manipulation of remote message folders called "mailboxes", in a way that is functionally equivalent to local mailboxes. IMAP4rev1 also provides the capability for an offline client to resynchronize with the server (see also [\[IMAP-DISC\]](#)).

IMAP4rev1 includes operations for creating, deleting, and renaming mailboxes; checking for new messages; permanently removing messages; setting and clearing flags; [\[RFC-822\]](#) and [\[MIME-IMB\]](#) parsing; searching; and selective fetching of message attributes, texts, and portions thereof. Messages in IMAP4rev1 are accessed by the use of mailbox numbers. These numbers are either message sequence numbers or unique identifiers.

IMAP4rev1 supports a single server. A mechanism for accessing configuration information to support multiple IMAP4rev1 servers is discussed in [\[ACAP\]](#).

Why migrate to Exchange 2010?



Supported clients:

- Outlook 2003 and later (Windows & Mac)
- IMAP & POP clients
- Mac Mail / Entourage
- Outlook Web App (Premium support):
 - Internet Explorer, Firefox, Chrome (Windows), Safari (Mac)
- Mobile devices



'Is that the new iPad?'



Why migrate to Exchange 2010?



Improved Storage Model

- Potential higher availability
- Lower cost storage



HP/LeftHand P4500 2U SAN
3Gb SAS (12xLFF)

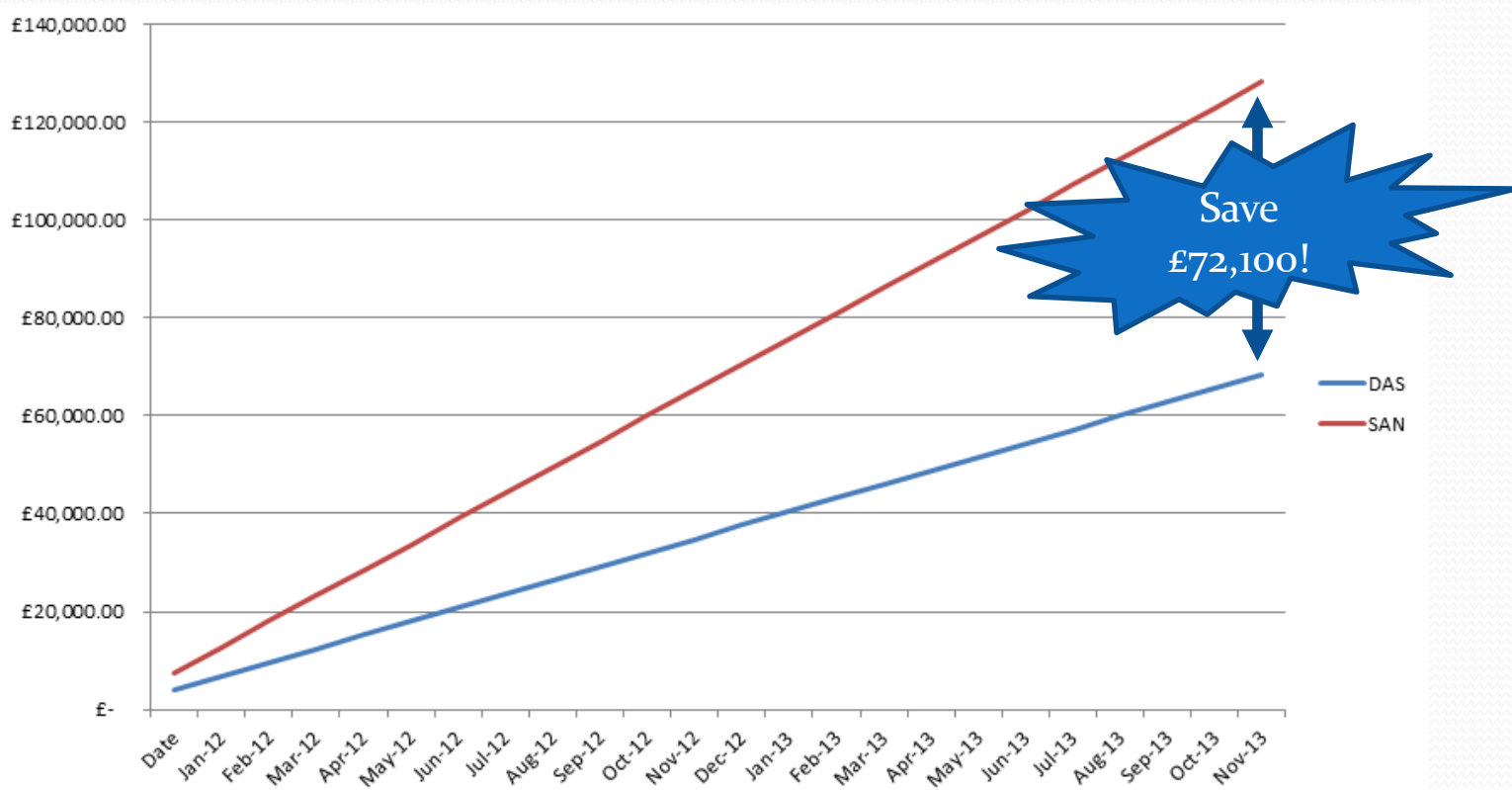


HP D2700 2U Direct-Attached disk enclosure
6Gb SAS
(12xLFF or 25 SFF)

Why migrate to Exchange 2010?



- Lower cost storage



What is the Exchange 2010 design?



- OXMAIL**
- Checks address validity
 - Checks for viruses
 - Assigns spam rating (small messages only)



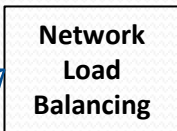
ISA cluster



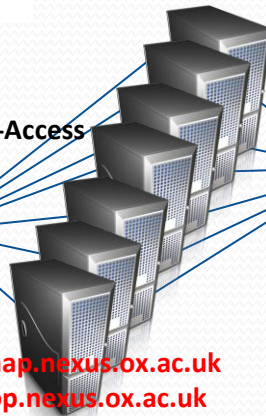
Hub Transport



Network Load Balancing

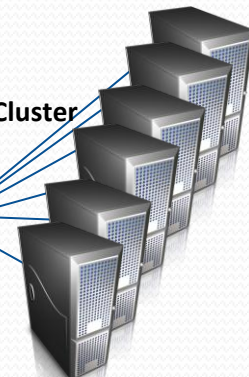


Client-Access



imap.nexus.ox.ac.uk
pop.nexus.ox.ac.uk

Mailbox Cluster

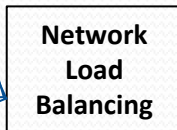


BANBURY ROAD

Hub Transport



Network Load Balancing

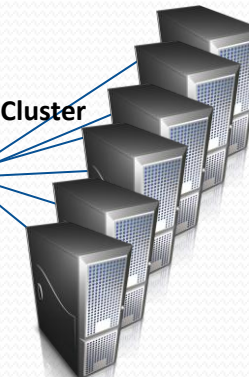


Client-Access



wildcard.herald.ox.ac.uk

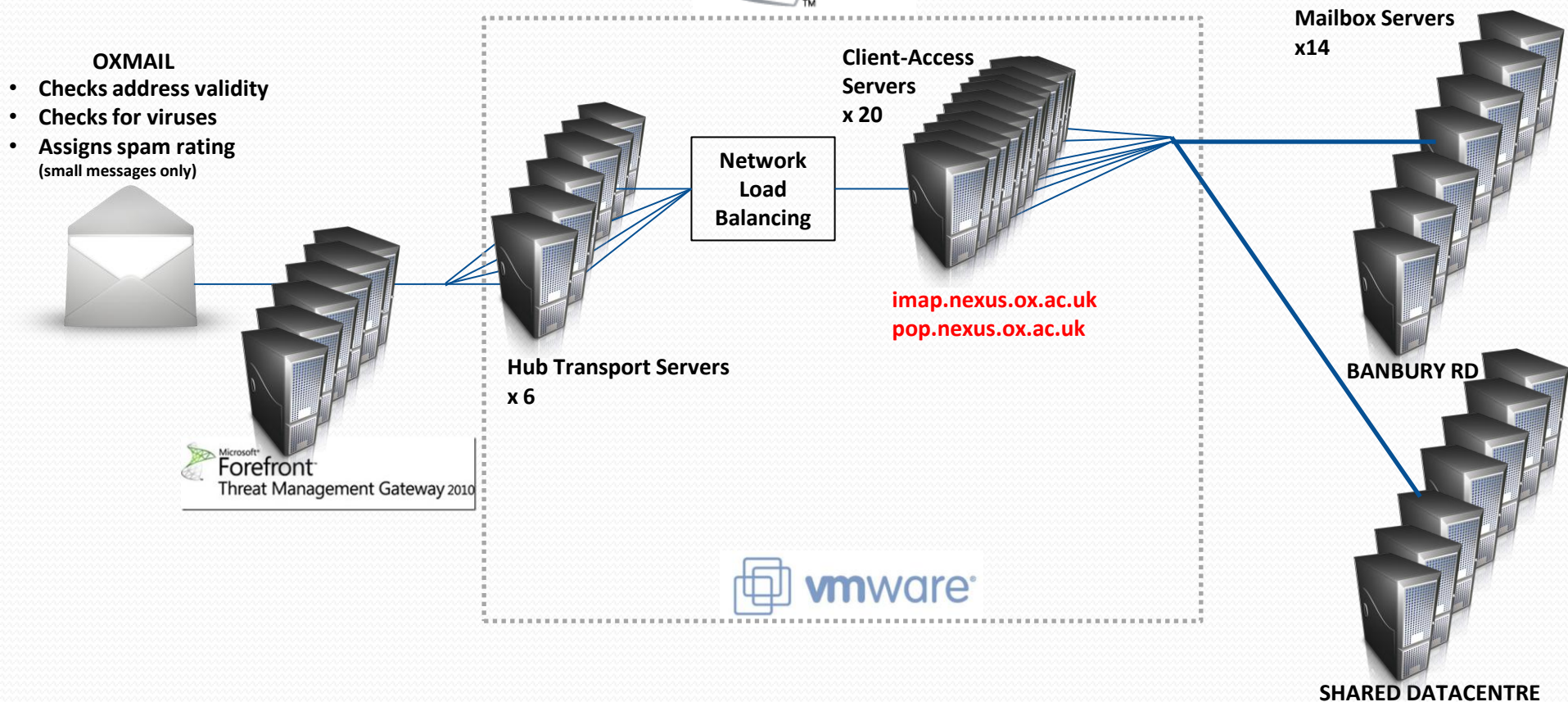
Mailbox Cluster



BEGBROKE



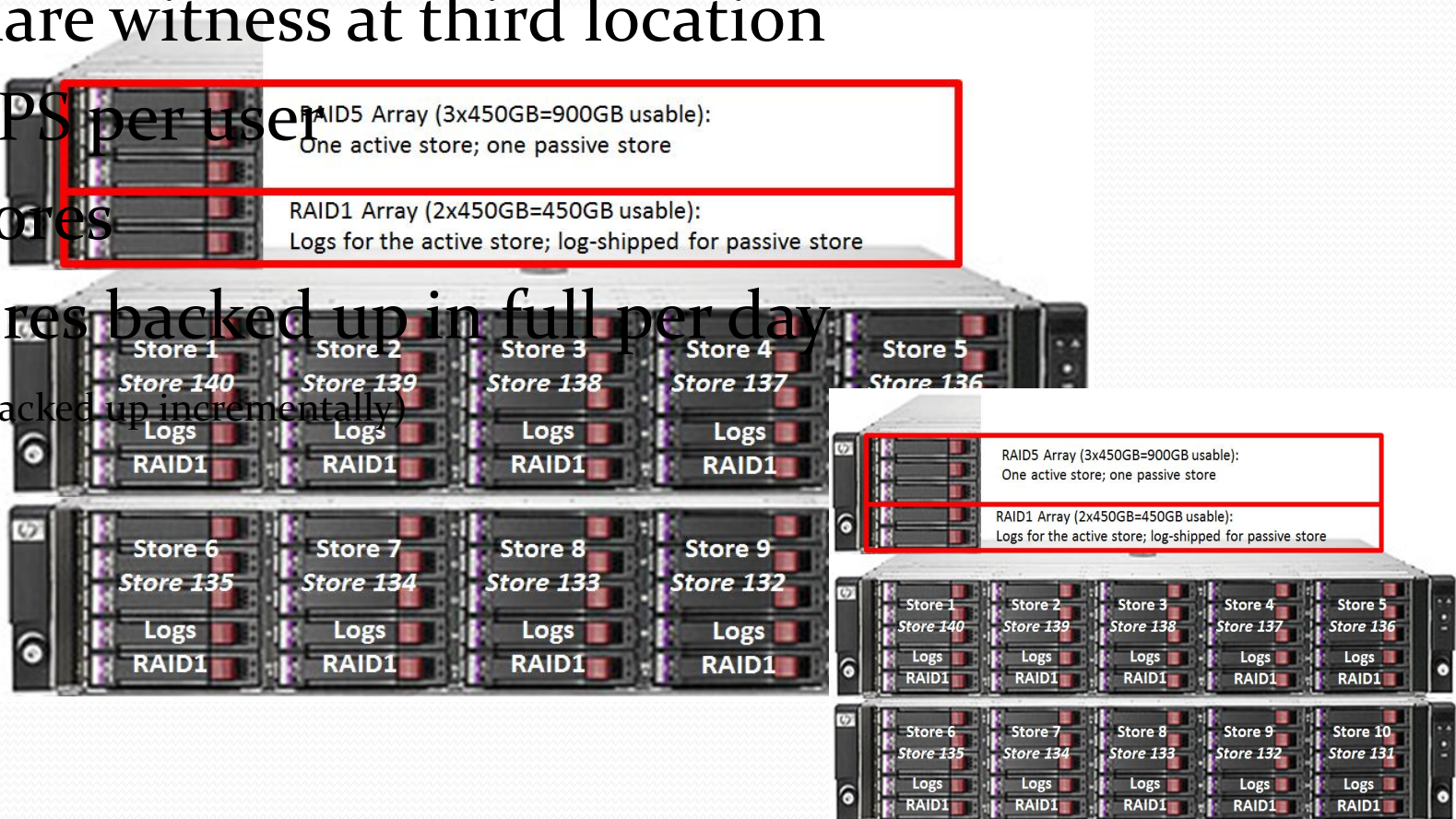
What is the Exchange 2010 design?





What is the Exchange 2010 design?

- Fileshare witness at third location
- 1.2 IOPS per user
- 140 stores
- 20 stores backed up in full per day
(others backed up incrementally)



Any Questions?

MATT



'Won't they ever leave? It's like trying to get rid of Colonel Gaddafi'

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