Hyper-V replica is a wonderful thing! If you have a spare Hyper-V host, and you just don't know what to do with it, use it as a replica server for your virtual machines. It is a poor mans fail-over, but it works and machine state can be at least five minutes old.

Here is a series of screenshots on how it's done with Hyper-V manager on a client machine.

My configuration:

- My network contains an Active Directory domain (not contoso.com)
- Microsoft Windows Hyper-V 2012 R2 hosts
- Microsoft Windows 8.1 clients

Open Hyper-V manager, and connect to your source and destination servers. On the destination host, open 'Hyper-V Settings', select 'Replication Configuration'

- Check 'Enable this computer as a Replica server.'
- Check 'Use Kerberos (HTTP)' (If you want, you can use HTTPS instead, or both. But be sure to have a valid certificate.)
- Select 'Allow replication from any authenticated server' and enter the path where you want to store replicated virtual machines.
- If you plan to replicate from multiple sources, you might rather want to select 'Allow replication from the specified servers' and specify each servers storage location separately.

1	Hyper-V Settings for VMH05 – 🗆 🗙
Image: Server Image: Virtual Hard Disks d:\ Image: Virtual Machines d:\Virtual Machines Image: Physical GPUs Manage RemoteFX GPUs Manage RemoteFX GPUs Image: NUMA Spanning Image: Allow NUMA Spanning Image: Virtual Machines Image: Storage Migrations 1 Simultaneous Migrations Image: Storage Migrations </th <th>Hyper-v Settings for vivienos Image: Replication Configuration Image: Egable this computer as a Replica server. Authentication and ports Specify the authentication types to allow for incoming replication traffic. Ensure that the ports you specify are open in the firewall. Image: Use Kerberos (HTTP): Data sent over the network will not be encrypted. Specify the port: 80 Image: Use certificate-based Authentication (HTTPS): Data sent over the network will be encrypted. Specify the port: 443 Specify the certificate: Issued To: Intended Purpose:</th>	Hyper-v Settings for vivienos Image: Replication Configuration Image: Egable this computer as a Replica server. Authentication and ports Specify the authentication types to allow for incoming replication traffic. Ensure that the ports you specify are open in the firewall. Image: Use Kerberos (HTTP): Data sent over the network will not be encrypted. Specify the port: 80 Image: Use certificate-based Authentication (HTTPS): Data sent over the network will be encrypted. Specify the port: 443 Specify the certificate: Issued To: Intended Purpose:
 Mouse Release Key CTRL+ALT+LEFT ARROW Enhanced Session Mode Use if available Reset Check Boxes Reset check boxes 	Select Certificate Authorization and storage Specify the servers that are allowed to replicate virtual machines to this computer. Allow replication from any authenticated server Specify the default location to store Replica files: D:\replication\ Browse Allow replication from the specified servers: Primary Server Storage Location Trust Group
	<u>QK</u> <u>Cancel</u> <u>Apply</u>

Note that the replication will not work if you don't enable the firewall rules. You can enable the rules from CMD on the host.

```
D:\>netsh advfirewall firewall set rule name="Hyper-V Replica HTTP Listener
(TCP-In)" new enable = yes
Updated 1 rule(s).
0k.
D:\>
D:\>netsh advfirewall firewall set rule name="Hyper-V Replica HTTPS Listener
(TCP-In)" new enable = yes
Updated 1 rule(s).
0k.
```

D:\>

On the source host, right-click the virtual machine for which you wish to enable replication, and click 'Enable Replication'

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File Action View Help						
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Hyper-V Manager	Virtual	Machines				
VMH02	Name	*	State	CPU Usage	Assigned Memory	Uptime
VMH03	portal.		Running Running	0% 0%	2116 MB 930 MB	24.03:40:45 24.03:41:44
VMH07	Saf	Connect		0%	2420 MB	28.10:50:23
	Shi	Settings		0%	2048 MB	44.03:47:57 31.19:34:33
	sql ww	Turn Off Shut Down Save		0% 0% 7%	8192 MB 3296 MB 2048 MB	6.21:51:36 43.03:52:02 21.03:52:08
		Pause Reset				
		Checkpoint				
		Move				
	Cha	Export				
	Cnec	Rename				
		Enable Replicati	on			The selected virtual
		Help				
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Enter the host name of your destination Hyper-V host

1	Enable Replication for SafeQ	×
Specify Replic	ca Server	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	Specify the Replica server name to use to replicate this virtual machine. If the Replica server is on a failover cluster, specify the name of the Hyper-V Replica Broker as the Replica server. Use the Failover Cluster Manager on the Replica server to find the name of the Replica Broker. Replica gerver: mino2 Browse.	
	< Previous Next > Einish Cance	I

Select authentication method (be sure to match it with the destination host)

	Enable Replication for SafeQ	×
Specify Con	nection Parameters	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	Replica gerver: wmh02. Replica server pgrt: 80 Authentication Type Image: Constraint of the server part of the serve	
	< Previous Next > Finish Cance	el

Select the virtual hard disks you want to replicate (Note that if you don't select the system disk, you will not be able to boot the replicated server)

1	Enable Replication for SafeQ	×
Choose Repli	cation VHDs	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	Clear the check boxes of any virtual hard disks (VHDs) that you do not want to replicate (for examp a VHD used for a dedicated paging file). Not replicating certain VHDs, such as the operating system VHD, could result in the Replica virtual machine not starting up properly. Virtual Hard Disks: Virtual Hard Disks: E:\	le,
	< <u>Previous</u> <u>N</u> ext > <u>Finish</u> Cancel	

Select the interval which will be met to send changes to the replica server.

1	Enable Replication for SafeQ	×
Configure Re	eplication Frequency	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	Chose the frequency at which changes will be sent to the Replica Server	
	< Previous Next > Finish Cancel	

Select if you need hourly recovery points, or just the latest recovery point.

	Enable Replication for SafeQ	×
Configure Ac	ditional Recovery Points	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	 You can choose to store only the latest recovery point of the primary virtual machine on the Replica server or to add additional recovery points, allowing you to recover to an earlier point in time. Additional recovery points require more storage and processing resources. Configure additional recovery points for this virtual machine Maintain gnly the latest recovery point Create additional hourly recovery points Coverage provided by additional recovery points (in hours): 24 ÷ Volume Shadow Copy Service (VSS) snapshot frequency (in hours): 4 ÷ This option requires the latest Integration Components be installed in the guest. For non-Windows guest operating systems, these snapshots are file-system consistent. 	5
	< Previous Next > Finish Cancel	

Determine how and when you want to do the initial replication. It would be wise to use external media if the VHDs are large, or schedule the initial replication after office hours.

	Enable Replication for SafeQ	×
Choose Initia	al Replication Method	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	 Before replication can start, an initial copy of all virtual hard disks that you selected must be transferred to the Replica server. Size of the initial copy of selected virtual hard disks: 41,99 GB Initial Replication Method Send initial copy gver the network Send initial copy using external media Specify the location to export initial copy. Browse Use an existing virtual machine on the Replica server as the initial copy. Choose this option if you have restored a copy of this virtual machine on the Replica server. The restored virtual machine will be used as the initial copy. Schedule Initial Replication Start replication immediately Start replication on: 10.10.2014. 15:00 You can choose any time up to 17. Istopada 2014 	
	< Previous Next > Finish Cance	

Review the wizard data, and click 'Finish'

*	Enable Replicati	on for SafeQ	×
Completing t	he Enable Replication wizard	d	
Before You Begin Specify Replica Server Specify Connection Parameters Choose Replication VHDs Configure Replication Frequency Configure Additional Recovery Points Choose Initial Replication Method Summary	You have successfully completed the """"""""""""""""""""""""""""""""""""	vmh02.lune 80 Yes Kerberos authentication None 5 minutes No Using network, start immediately	for
		< Previous Next > Finish Cancel	

Wait for the configuration to complete



And check the replication progress (if you started it imediately) in the Hyper-V Manager

lame	State	CPU Usage	Assigned Memory	Uptime	Status	Replication Health
portal.	Running	0%	2116 MB	24.03:43:48		Not Applicable
relay.b	Running	0%	930 MB	24.03:44:47	Sending Initial Replica (98%)	Normal
	Running	0%	2420 MB	28.10:53:23	Sending Initial Replica (2%)	Normal
	Running	0%	932 MB	44.03:51:00		Not Applicable
	Running	0%	2048 MB	31.19:37:36		Not Applicable
•	Running	0%	8192 MB	6.21:54:40		Not Applicable
	Running	0%	3296 MB	43.03:55:05		Not Applicable
W	Running	8%	2048 MB	21.03:55:12	Sending Initial Replica (38%)	Normal

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