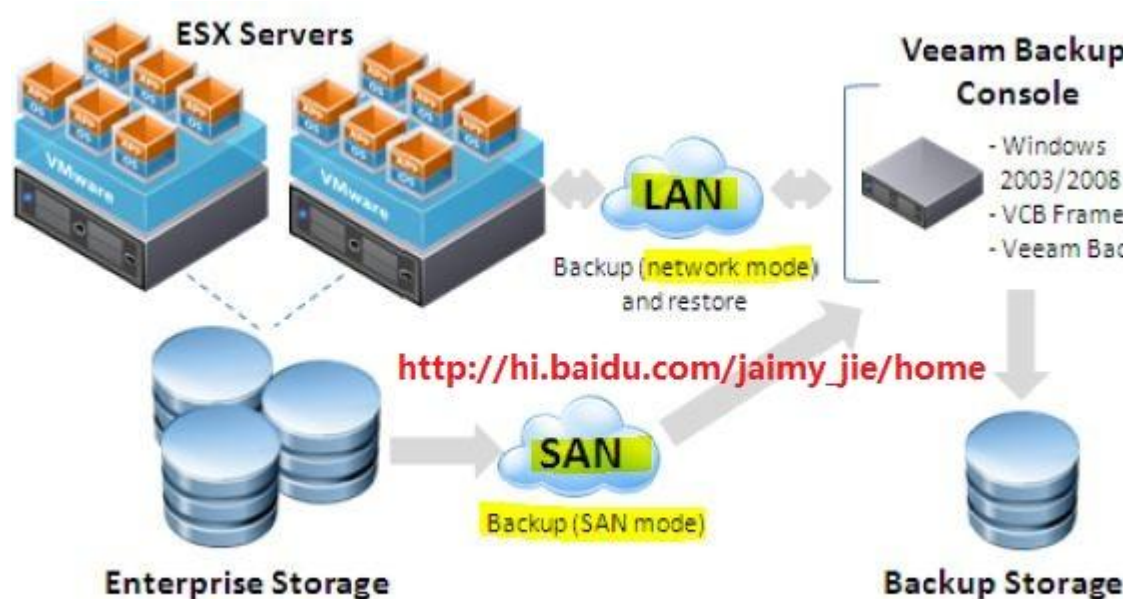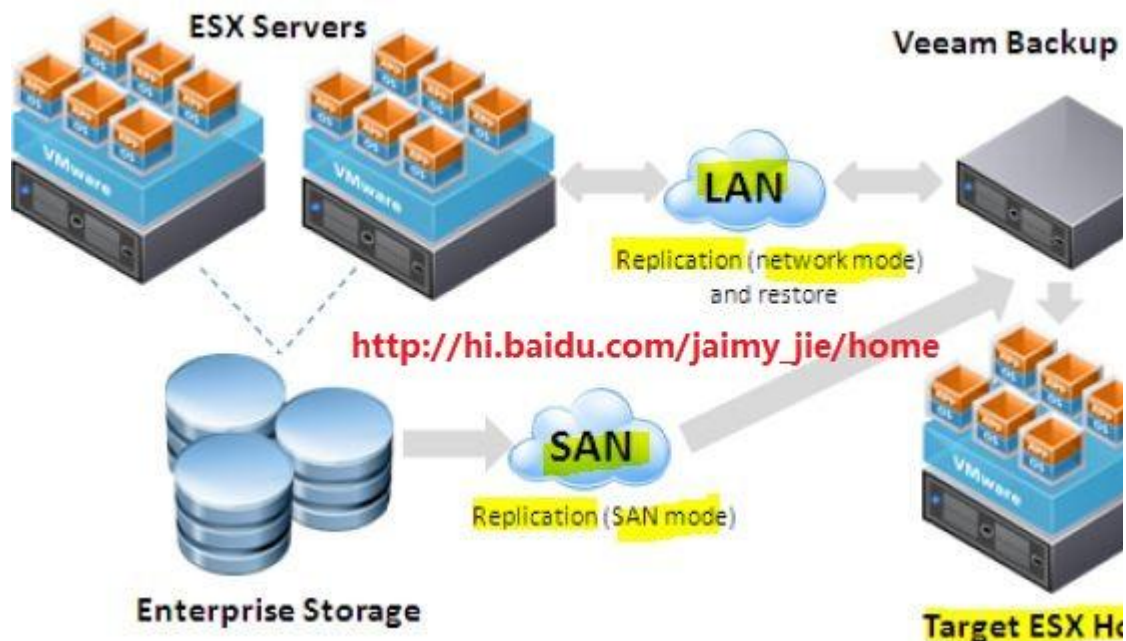Veeam Backup & Replication 5 安装,配置及使用

一．概念：

第三方备份和复制的 esx/esxi 数据软件，支持多种备份方法及模式。全面支持 ESX 和 ESXi 主机的备份,支持虚拟机裸机恢复(vmdk)和单个文件恢复(仅 Windows 平台)，针对目标备份数据的在线重复数据删除和压缩,同时支持 VMware Tools 暂停和利用微软 VSS 驱动的专用代理实现应用一致性备份.除了许多备份产品使用的传统的全备份/增量备份方法以外，Veeam 还支持合成备份模式

备份(复制)方法：

1. VMware vStorage APIs: VMware Consolidated Backup 继任者，两者均可以直接访问虚拟机存储而无需通过主机(LAN-free)。

有四种传输模式可以使用： SAN 模式、故障切换 SAN 模式、网络模式和虚拟设备模式

1). **SAN 模式(SAN ONLY)**：只支持运行在块存储设备上的虚拟机，若在物理服务器上运行此软件，必须通过光纤通道 HBA 卡或 iSCSI 启动器直接访问虚拟机数据存储，若在虚拟机上安装，则需安装的微软 iSCSI 启动器直接连接 iSCSI 数据存储。

2). **故障切换 SAN 模式(SAN with failover)**：增加了安全机制，当 SAN 模式不可用，会切换到网络模式完成备份。这是不可取的，因为运行在网络模式的时候，会消耗 ESX 主机更多的资源。

3). **网络模式（Network）**：效率最低模式，通过主机访问虚拟机存储，使用网络块设备协议（NBD）协议连接到虚拟机数据存储。这增加了额外的网络流量。但对于本地存储，只能用此模式，因为软件无法直接访问虚拟机的磁盘。

4). **虚拟设备模式(Virtual Appliance)**：软件安装在一台专用的虚拟机，要备份的虚拟机磁盘被"热添加（hot-added）"到此虚拟机上，数据直接从存储栈中读取而不是通过网络。SAN 模式与虚拟设备模式没有太大不同，因为它们都利用了存储栈来访问源数据

双核 CPU 的服务器上使用此软件，性能是非常差的。官方推荐至少四核到八核才能获得最佳的性能，因为它不仅把数据从源发送到目标。它还使用重复数据删除和压缩等先进的逻辑最小化复制和存储的数据总量。

2. VMware Consolidated Backup(VCB)：

1). SAN

2). Network

3. 传统的网络备份(Network Backup)：

Service Console Agetn OR Agent-less

二. 下载：

可以到官方网站下载最新的版本(有 32 位与 64 位两种版本)试用，需要注册一个
帐号，下载后网站会自动发一个 30 天试用版的 lic 文件到你的注册邮箱。

http://www.veeam.com/vmware-esx-backup.html

最新版： 5.0.2.230

三. 安装：

Veeam Backup 服务器可安装于物理服务器或者虚拟机，这取决于自己的实际情
况。若要安装多台 Veeam Backup & Replication 服务器，可以再安装一套
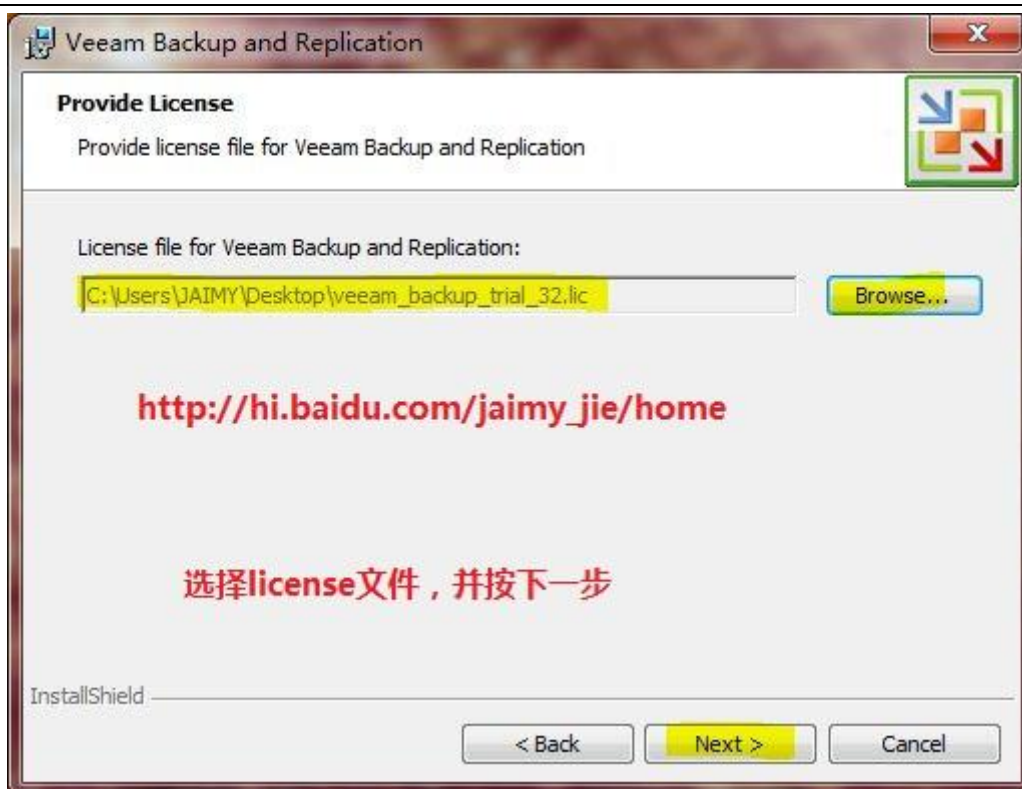Enterprise Manager 应用程序，用于通过 Web 界面集中管理多个服务器。

平台需求：

操作系统：Windows XP SP3、win2003 SP2、Vista SP2，Win2008 SP2， Win2008
R2 SP1，Windows 7 SP1

软件： SQL 2005/2008（自带 SQL 2005 SP3 Express），NET Framework 2.0 SP1,
PowerShell 2.0 or later

安装步骤图例：

注： 安装过程比较简单，跟普通的 microsft 软件一样，需要注意的地方就是
数据库选择，若已经有数据库，可以选择已经存在的数据库，若没有也可以用自
带的免费版 SQL 2005 Express。

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Veeam Backup and Replication

Welcome to the InstallShield Wizard for Veeam Backup and Replication

The InstallShield(R) Wizard will allow you to repair or remove Veeam Backup and Replication. To continue, click Next.

veeam
#1 for Virtualization

http://hi.baidu.com/jaimy_jie/home

按下一步

< Back   Next >   Cancel

Veeam Backup and Replication

License Agreement

Please read the following license agreement carefully.

Veeam Software Corporation ("Veeam")
End User Software License Agreement ("EULA")

IMPORTANT - READ CAREFULLY
http://hi.baidu.com/jaimy_jie/home
This EULA is a legally binding agreement between licensee end user ("End User") and Veeam setting forth the terms and conditions governing the use and operation of Veeam's proprietary computer software products (the "Software") and the written technical specifications for the use and operation of the Software (the "Documentation"). Where the sense and context permit, references in this EULA to the Software include the Documentation. By directly or indirectly accessing and/or

○ I accept the terms in the license agreement   Print
○ I do not accept the terms in the license agreement

同意协议，且按下一步

InstallShield

< Back   Next >   Cancel

Provide License

Provide license file for Veeam Backup and Replication

License file for Veeam Backup and Replication:

C:\Users\JAIMY\Desktop\veeam_backup_trial_32.lic   Browse...

http://hi.baidu.com/jaimy_jie/home

选择license文件，并按下一步

InstallShield

< Back   Next >   Cancel

Custom Setup

Select the program features you want installed.

Click on an icon in the list below to change how a feature is installed.

Veeam Backup and Replication
Veeam Backup Catalog
PowerShell Snap-in

Feature Description

Veeam Backup and Replication
PowerShell SDK components.

·http://hi.baidu.com/jaimy_jie/home

This feature requires 740KB on
your hard drive.

Install to:

Change...

InstallShield   选择要安装的组件，再按下一步

Help   Space   < Back   Next >   Cancel

Veeam Backup and Replication

SQL Server Instance
Choose SQL Server instance to create the Veeam Backup database on.

选择数据库，用默认自
带的，还是已经存在
的，确定后再按下一步

○ Install new instance of SQL Server (localhost\VEEAM)
○ Use existing instance of SQL Server

SQL server and instance:

JAIMY-PC\SQLEXPRESS   Browse...

http://hi.baidu.com/jaimy_jie/home
Enter the instance name in the HOSTNAME\INSTANCE format.

The current user must be able to logon to the selected instance using Windows integrated authentication, and have sufficient permission to create the database on the selected instance. If this is not the case, restart the setup program using the appropriate account.

Database:

VeeamBackup   Browse...

InstallShield

< Back   Next >   Cancel

Veeam Backup and Replication

Service Settings
Specify Veeam Backup and Replication service settings.

Enter the user name in the DOMAIN\USERNAME format. The supplied user account must have database owner rights to the Veeam Backup and Replication database on the VEEAM SQL Server instance, and Full Control NTFS permissions on the catalog folder.

输入管理数据库的帐号及密码

User name: JAIMY-PC\JAIMY   Browse...

Password: ••••••••

Port: 9392   端口

http://hi.baidu.com/jaimy_jie/home

InstallShield

< Back   Next >   Cancel

Veeam Backup and Replication

File Locations

Specify root folders for guest file system catalog (persistent data), and vPower NFS (non-persistent data). Using designated volume is highly recommended.

Guest file system catalog

Catalog location:
C:\VBRCatalog\

[Change...]

Service port: 9393

http://hi.baidu.com/jaimy_jie/home

vPower NFS

Root folder:
C:\ProgramData\Veeam\NFS\

[Change...]

Instant VM Recovery write cache will be stored in this folder. Make sure the selected volume has at least 10GB of free disk space available to prevent recovered VMs from stopping.

InstallShield

[< Back] [Next >] [Cancel]

Veeam Backup and Replication

Ready to Install

The wizard is ready to begin installation.

Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

http://hi.baidu.com/jaimy_jie/home

☑ Create shortcut on desktop

InstallShield

[< Back] [Install] [Cancel]

四．配置：

1. 加入 vCenter server 或 ESX(i)主机：

2. **设置通知邮件地址：**

Veeam Backup and Replication

File Edit View Tools Backup Help

Back   Forward

Application Item Restore ▶
File Level Restore ▶
PuTTY
Users and Roles...
Options...

eplication Restore VM Copy

ame   Descript

My Computer
172.16.7.2

- Backup and Repl
  - Jobs
  - Backups
  - Replicas
  - Sessions
- Restore
  - Instant Recovery
  - Sessions
- SureBackup
  - Application Groups
  - Virtual Labs
  - Jobs
  - Sessions
- Servers

Options

E-mail Settings | SNMP Settings | Notifications | Advanced

☑ Enable e-mail notification

Server settings
SMTP server:
smtp.163.com 邮件SMTP服务地址 Advanced...

E-mail settings
From:
test1@163.com 发通知者的邮件地址
To:
test2@163.com 接收通知的邮件地址
Subject:
Job %JobName% completed: %JobResult% 主题

☑ Notify on success   Send Test
☑ Notify on warning
☑ Notify on failure
通知内容类型

OK   Cancel   Apply

Advanced email options

Credentials
Username: test1
Password: ●●●●

Connection options
Port: 25
Connection timeout: 10000

OK

3. 设置帐号&权限：

注： 帐号必须是事先有的帐号，可以是本地或网域的帐号。

五．如何备份与还原：

1. 备份：

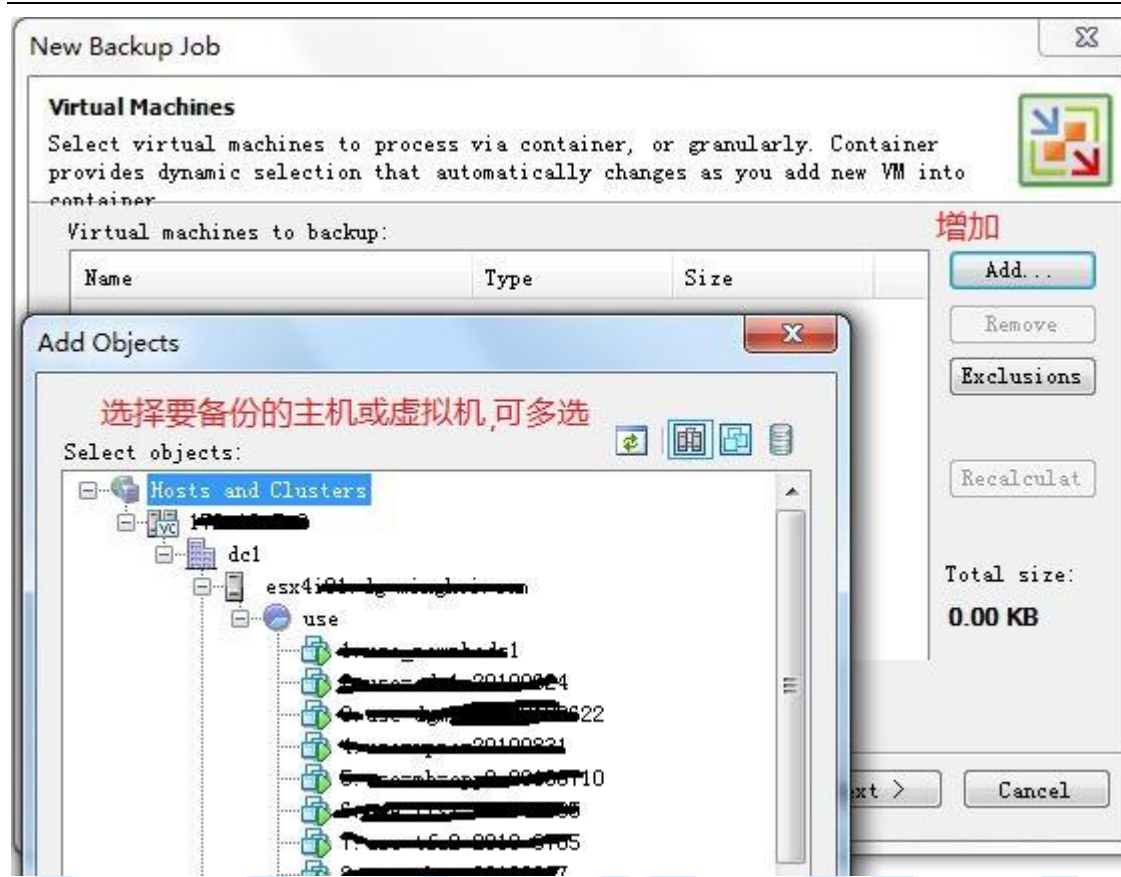
New Backup Job

Processing Mode

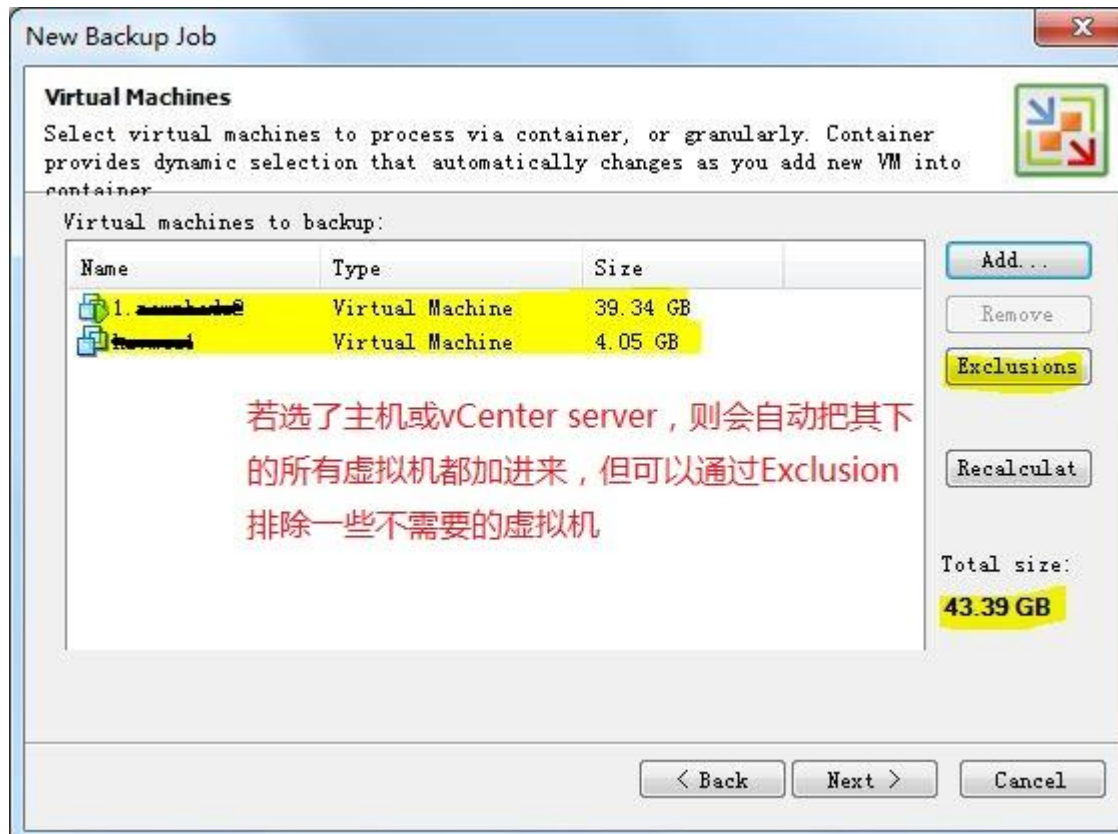Choose how VM virtual disk images should be retrieved from storage during backup.

○ **Direct SAN access**

VM data is retrieved using vStorage API directly from SAN. This mode requires that Veeam Backup server is connected directly into SAN fabric, otherwise VM

○ **Virtual Appliance**

VM data is retrieved from the shared storage through ESX I/O stack. This mode can only be used if Veeam Backup is installed in a VM. Refer to product's

○ **Network**

VM data is retrieved using vStorage API through ESX host over LAN using the NBD (Network Block Device) protocol.

Click Advanced to customize failover and encryption settings.   [Advanced]

选择VMware vStorage APIs 模式，根据自己环境而定。选SAN模式，默认是带故障切换，在Advanced中设置。

[< Back]   [Next >]   [Cancel]

New Backup Job

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size

增加

Add...

Remove

Exclusions

Recalculat

Total size:

0.00 KB

Add Objects

选择要备份的主机或虚拟机,可多选

Select objects:

- Hosts and Clusters
  - yc ████████
    - dc1
      - esx4j████████████████
        - use
          - ████████████1
          - ████████20100████
          - ████████████22
          - ████████20100821
          - ████████████10
          - ████████████
          - ████████████5

Next >　Cancel

New Backup Job

Virtual Machines

Select virtual machines to process via container, or granularly. Container provides dynamic selection that automatically changes as you add new VM into container.

Virtual machines to backup:

Name	Type	Size
1. ~~xxxxxxx~~	Virtual Machine	39.34 GB
~~xxxxxxx~~	Virtual Machine	4.05 GB

若选了主机或vCenter server，则会自动把其下
的所有虚拟机都加进来，但可以通过Exclusion
排除一些不需要的虚拟机

Add...
Remove
Exclusions
Recalculat

Total size:
43.39 GB

< Back   Next >   Cancel

New Backup Job

Backup Destination

Specify where to store the backup files produced by this job, and additional job settings. You can only choose backup destination between computers added to the console.

Destination: 选择目标路径

This computer or shared folder ▼   Host

Path to folder:

D:\FILE   Browse...   Check Space

File name: Backup Job 1

Restore points to keep on disk: 14

Deleted VMs retention period: 14   days

删除VMs保留期限

< Back   Next >   Cancel

New Backup Job

Job Schedule

Specify the job scheduling options. If you do not set the schedule, the job will need to be controlled manually.

☑ Run the job automatically   定义备份时间策略

- ⦿ Daily at this time: `22:00` `everyday` [Days...]
- ○ Monthly at: `22:00` `Fourth` `星期六` [Months...]
- ○ Periodically every: `1` `Hours` [Schedule..]
- ○ Continuously

Automatic retry

☑ Retry failed VMs processing: `3` times

Wait before each attempt for: `10` minutes

http://hi.baidu.com/jaimy_jie/home

[< Back] [Create] [Cancel]

2. VM COPY 方法同备份：

3. FILE COPY 比较简单，就像 windows 资源管理器，**把存储，本机及网络之间的文件夹及内存相互之间拷贝**

4. **恢复 VMs：**

Restore Wizard

Virtual Machine
Choose the virtual machine you would like to restore.

Virtual machine:

Job name	Last backup time	VM count	Restore points
⊟ Backup Job 1	2011-04-25 18:...	1	
⊞ test2	2011-04-25 18:...		1

选择备份的虚拟机

[< Back] [Next >] [Cancel]

Restore Wizard

Restore Point
Select the restore point you would like to restore VM to.

VM name: **test2**   Original host
VM size: **40.00 MB**
Available restore points:

Date	Type	
2011-04-25 星期一 18:07:12	Full	

选择还原点

☐ Power on VM after restoring

[< Back] [Next >] [Cancel]

Restore Wizard

Restore Destination

Specify the host, datastore and resource pool where the virtual machine should be restored. You can only choose between hosts added to the console.

Host: 选择目标主机

[Host] [Refresh]

Virtual machine name: Restore disks: 选择磁盘格式

test2   设置虚拟机名

As on original VM (recommended)

Resource pool: **use**   Datastore: **system** 选择存储器

Resources
    use

选择资源池

Name	Free space
	479.41 GB
	435.00 GB
	712.06 GB
	451.23 GB

Choose a separate datastore for each virtu

[< Back] [Next >] [Cancel]

Restore Wizard

Completing the Restore Wizard

Veeam
#1 for Virtualization

Press Finish to close the wizard and start the task.

[< Back] [Next >] [Finish]

六．如何复制与 failvoer

1．虚拟机复制：

Veeam Backup and Replication

File   Edit   View   Tools   Backup   Help

Back   Forward   Refresh   Add Server   Backup   Replication   Restore   VM Copy

- Backup and Replication
  - Jobs
  - Backups
  - Replicas
  - Sessions
- Restore
  - Instant Recovery
  - Sessions
- SureBackup
  - Application Groups
  - Virtual Labs
  - Jobs
  - Sessions
- Servers

Name	Type	State
Backup Job 1	Backup	75% comple

New Replication Job

Name and Description

Type in a name and description for this replicatio

Name:
Replication Job 1

Description:
Created by JAIMY-PC\JAIMY at 2011-04-25 15:43:0

New Replication Job

Processing Mode

Choose how VM virtual disk images should be retrieved from storage during replication.

- ◉ **Direct SAN access**

  VM data is retrieved using vStorage API directly from SAN. This mode requires that Veeam Backup server is connected directly into SAN fabric, otherwise VM

- ○ **Virtual Appliance**

  VM data is retrieved from the shared storage through ESX I/O stack. This mode can only be used if Veeam Backup is installed in a VM. Refer to product's

  http://hi.baidu.com/jaimy_jie/home

- ○ **Network**

  VM data is retrieved using vStorage API through ESX host over LAN using the NBD (Network Block Device) protocol.

Click Advanced to customize failover and encryption settings.   [Advanced]

选择VMware vStorage APIs 模式，根据自己硬件及软件环境而定

[< Back]   [Next >]   [Cancel]

若选了主机或vCenter server，则会自动把其下的所有虚拟机都加进来，但可以通过Exclusion排除一些不需要的虚拟机

New Replication Job

Replica Destination
Specify the ESX host and data store where the virtual machines should be replicated. You can only choose between ESX hosts added to the console.

Replica destination
Host: ~~esxi1ESX@primghost.com~~   [Choose...] [Check Space]
Datastore: ~~esx4i-store-c~~   选目标主机及存储
Initial replication
☐ Perform initial replication over this removable storage:
[   ] [Browse...]

Replica settings   **http://hi.baidu.com/jaimy_jie/home**
Replica name's suffix: [_replica   ]   Restore points to keep on disk: [⬍]
Replica disks: [s on original VM (recom ▼]
        ┌─────────────────────────────────┐
        │ As on original VM (recommen   │
        │ Force thick   │   [⚙ Advanced...]
        │ Force thin   │
        └─────────────────────────────────┘
选磁盘格式

                        [< Back] [Next >] [Cancel]

New Replication Job

Replica Consistency
Choose additional processing options available for Microsoft Windows guests.

☐ **Enable application-aware image processing**
   Quiesces applications inside processed VM using Microsoft VSS to ensure
   transactionally consistent backup, and configures them to perform required VSS

☐ **Enable guest file system indexing**
   Indexes guest OS files inside processed VM to enable browsing and searching for
   guest files in backup. Indexing is completely optional, and not required to be

Guest OS credentials

Specify the account with local administrator privileges on all VMs
included in this job. Username must be supplied in the DOMAIN\USER...

Username: [   ] [Browse...]
Password: [   ]

Click Advanced to customize processing options for individual VMs. [Advanced...]

[< Back] [Next >] [Cancel]

2．Failover(故障转移)：

Veeam Backup and Replication

File   Edit   View   Tools   Backup   Help

打开恢复向导

Back   Forward   Refresh   Add Server   Backup   Replication   Restore   VM Copy

- Backup and Replication
  - Jobs
  - Backups
  - Replicas
  - Sessions
- Restore
  - Instant Recovery
  - Sessions
- SureBackup
  - Application Groups
  - Virtual Labs
  - Jobs
  - Sessions
- Servers

Performing Backup

Restore Wizard

Restore Options
What would you like to do?

Restore from backup

- Instant VM recovery
- Entire VM (including registration)
- VM files (VMDK, VMX)
- Guest files (Windows)
- Guest files (other OS)
- Application items

http://hi.baidu.com/jaimy_jie/h

Restore Wizard

Virtual Machine
Choose the virtual machine you would like to restore.

Virtual machine:

Job name	Last backup time	VM count	Restore poin
⊟ Replication Job 1	2011-04-25 17:01:29	1	
	2011-04-25 17:01:29		2

选择复制的虚拟机

< Back   Next >   Cancel

Restore Wizard

Restore Point
Select the restore point you would like to restore VM to.

VM name: 2u-s-ad-1-20100024   Original host: 172-18-7-2

VM size: 8.00 GB

Available restore points:

Date	Type	
2011-04-25 星期— 17:02:23	Full	
2011-04-25 星期— 16:00:52	Rollback	

选择恢复点

< Back   Next >   Cancel

Restore Wizard

Restore Reason

Type in the reason for performing this restore operation. This information will be logged in the restore sessions history for later reference.

Restore reason:

可选，写个为什么要恢
复的理由

< Back   Next >   Cancel

Restore Wizard

Completing the Restore Wizard

VEEAM™
#1 for Virtualization

Press Finish to close the wizard and start the task.

< Back   Next >   Finish

注： 同时在虚拟机日志中也会显示转化过程：

3. Undo failover(取消故障转移)：

Restore Wizard

Completing the Restore Wizard

Press Finish to close the wizard and start the task.

[< Back] [Next >] [Finish]

Restore Session

VM name: ~~2xxxxxxx1-20100024~~	Status: **Success**
Restore type Failover	Start time 2011-04-25 17:41:58
Initiated by JAIMY-PC\JAIMY	End time: 2011-04-25 18:00:33

Reason | **Parameters** | **Log**

Date/Time	Message
✅ 2011-04-25 17:45:01	Updating VM registration
✅ 2011-04-25 17:45:06	Creating replica protection snapshot.
✅ 2011-04-25 17:45:08	Powering on replica VM
✅ 2011-04-25 17:45:08	Failover completed successfully
✅ 2011-04-25 17:58:15	Undoing failover
✅ 2011-04-25 17:58:27	Starting agents on "esx4i02.dg-minghoi.com"
✅ 2011-04-25 17:58:31	Establishing VI SOAP connection to "172.16.7.2".
✅ 2011-04-25 17:58:43	Discarding replica protection snapshot
✅ 2011-04-25 17:59:42	Restoring the latest replica state

[Close]

注： 同时在虚拟机日志中也会显示取消过程：

关闭虚拟机		已完成
恢复快照		已完成
移除快照	2.use ddsf 20100624_replica	已完成
重新加载虚拟机		已完成
重命名虚拟机		已完成

更多的功能请查看官方手册