Warm Spare
Setup Guide

Note - **This article is for newer systems running the 10.8xx.210.xx and newer**.

This guide will walk you through the process of setting up a warm spare server. Note: You will need 2 PBXact servers of the same model with identical hardware including analog and digital cards. You do not have to purchase user licenses on the spare server but you will need to purchase an additional server/PBXact software.

This article assumes the following:

1. You have an existing PBXact system fully licensed that will be your primary server.
2. You have an identical PBXact system that will act as the warm spare. This server has identical Analog/PRI/BRI hardware (if used) as the primary server.
3. The two servers can communicate on an IP level with each other on port 22.
4. Your secondary backup system has been setup in the portal as a backup to your primary. If this is not the case please contact support to link the two servers.

Setting up share keys between the two servers so they can communicate across SSH on port 22.

1. Begin by creating a user and an SSH key on our warm standby server so that it can log in to the primary production server and transfer backups to itself.

2. From an SSH client like Putty or SecureCRT, SSH into your backup server.

```
login as: root
Authenticating with public key "tony.lewis" from agent
Last login: Thu Aug  2 14:35:27 2012 from 10.4.0.102

====================================
          Welcome to PBXact
====================================

[root@pbxactdev8 ~]#
```

3. Next issue the following command:

    sudo -u asterisk ssh-keygen

You will see the following output. You will need to press enter three times during this process.

```
===================================
         Welcome to PBXact
===================================

[root@pbxactdev8 ~]# sudo -u asterisk ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/var/lib/asterisk/.ssh/id_rsa):
Created directory '/var/lib/asterisk/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /var/lib/asterisk/.ssh/id_rsa.
Your public key has been saved in /var/lib/asterisk/.ssh/id_rsa.pub.
The key fingerprint is:
48:ac:18:2d:c7:4f:4d:4f:17:cc:e5:13:70:c4:38:dd asterisk@pbxactdev8.deployments.
pbxact.com
[root@pbxactdev8 ~]#
```

4. Now we will copy the key to the primary server so that the backup server can SSH to the primary server without needing a password. Issue the command. Make sure you replace the PrimaryServerIP with the IP Address of your primary PBX

   sudo -u asterisk ssh-copy-id -i /var/lib/asterisk/.ssh/id_rsa.pub root@PrimaryServerIP

```
[root@17362'     ~]# sudo -u asterisk ssh-copy-id -i /var/lib/asterisk/.ssh/id_rsa root@192.168.0.90
```

5. You should see the following output:

```
[root@164821     ~]# sudo -u asterisk ssh-copy-id -i /var/lib/asterisk/.ssh/id_rsa root@192.168.0.90
0
root@192.168.0.90's password:
Now try logging into the machine, with "ssh 'root@192.168.0.90'", and check in:

  .ssh/authorized_keys

to make sure we haven't added extra keys that you weren't expecting.
```

6. We will now test and make sure that the share keys are setup correctly by issuing the following command. It will log you into the primary server without prompting you for a password. If it does, you can type "exit" to then return back to the warm spare server. If this does not work then you do not have your keys setup correctly and should restart the process. Remember to replace PrimaryServerIP with the IP Address of the primary server
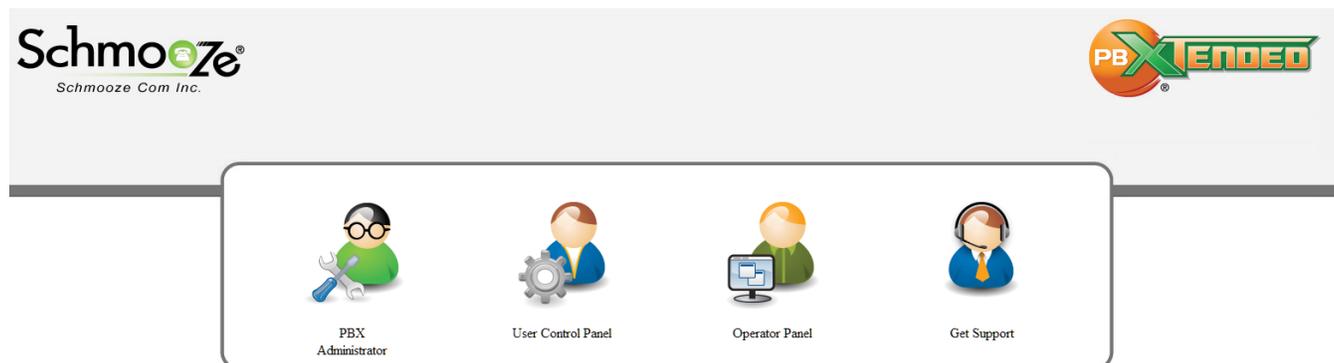
   ssh -i /var/lib/asterisk/.ssh/id_rsa root@PrimaryServerIP

Creating a backup job on warm spare to log into the primary server to pull a backup and restore it on the backup server nightly.
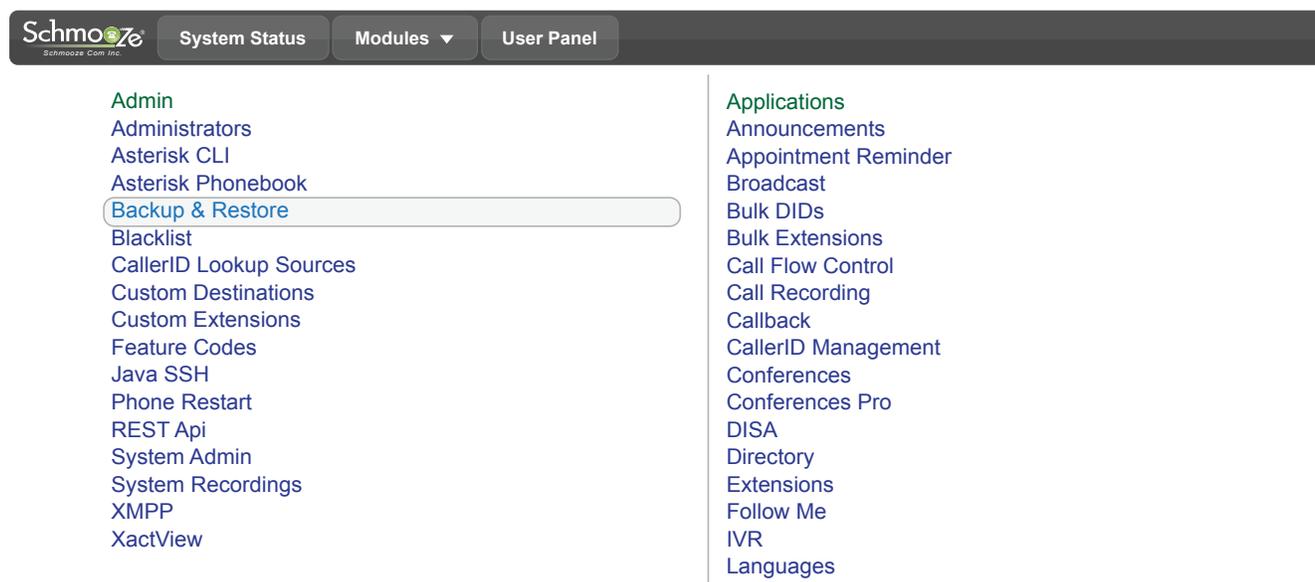
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Now we will log into the warm spare PBXact's administration GUI. From your browser go to http://IPADDRESS:2001 and then click on PBX Administrator. Replace IPADDRESS with the actual IP address of your warm spare.

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PBX Administrator   User Control Panel   Operator Panel   Get Support

Next select "Modules" and then "BACKUP & RESTORE" under the Admin section.

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Schmooze Com Inc.

System Status | Modules ▾ | User Panel

Admin
Administrators
Asterisk CLI
Asterisk Phonebook
Backup & Restore
Blacklist
CallerID Lookup Sources
Custom Destinations
Custom Extensions
Feature Codes
Java SSH
Phone Restart
REST Api
System Admin
System Recordings
XMPP
XactView

Applications
Announcements
Appointment Reminder
Broadcast
Bulk DIDs
Bulk Extensions
Call Flow Control
Call Recording
Callback
CallerID Management
Conferences
Conferences Pro
DISA
Directory
Extensions
Follow Me
IVR
Languages

We will see this screen showing us the backup module options:

Backup

New Backup

Backups
Restore
Servers
Templates

Backup-Now
Default backup

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We will now define the primary PBX as a new server for this warm spare server to reach into and perform the backup on. Click on the "Servers" option on the right side and it will bring up a page like this:

Backup Servers

New Email server

New FTP server

New Local server

New Mysql server

New SSH server

Backups

Restore

Servers

Templates

CDR server (mysql)

Config server (mysql)

Legacy Backup (local)

Local Storage (local)

Migrated FTP server (ftp)

Click on the "New SSH Server" option so we can setup the information on where and how to connect to the primary PBX to get the backup data from.

SSH Server

Server Name

Description ❓

Hostname ❓

Port ❓ | 22

User Name

Key ❓

Path ❓

Save   Delete

We are going to define the following fields for this server and press the "Save" button.

- **Server Name**- We will call it "Primary PBX".
- **Hostname**- Define the IP address or FQDN of the primary server.
- **Port**- By default we use port 22 for SSH.
- **User Name**- Root is the username we setup for our share keys.
- **Key**- This is the path to the SSH Key that we created earlier of /var/lib/asterisk/.ssh
- Click the "Save" button.

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SSH Server

Server Name [   ]

Description ❓ [   ]

Hostname ❓ [   ]

Port ❓ [22   ]

User Name [   ]

Key ❓ [   ]

Path ❓ [   ]

[**Save**] [**Delete**]

Now that we setup the primary server location information in the backup module we will create an actual backup job by clicking on the "Backups" option on the right side of the screen.

Backups

Restore

Servers

Templates

CDR server (mysql)

Config server (mysql)

Legacy Backup (local)

Local Storage (local)

Migrated FTP server (ftp)

We will see a screen like below. This is where we will setup what to backup, what server to log into to get the backup from, where to store the backup and how often to run. Press the "New Backup" Button:

Backup

[**New Backup**]

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Name the new backup job "Nightly Warm Backup".

Backup

Backup Name [Nightly Warm Backup]

Description ❓ [   ]

Now choose a template defining which items to backup. We have included a "Warm Standby" template that you can drag over to the Backup Items section. This will include all needed information on what to backup and what to exclude from the backup.

Items

Backup Items ❓

Type Path/DB Exclude Delete

⊕

Templates ❓

✛ CDR's
✛ Config Backup
✛ Full Backup
✛ Safe Remote Restore
✛ System Audio
✛ Voice Mail
✛ Warm Standby

Items

Backup Items ⍰

Type	Path/DB	Exclude	Delete
Asterisk DB		Family, one per line	🗑
File	_ASTETCDIR_/*custom*		🗑
File	_ASTETCDIR_/voicemail.conf		🗑
File	_ASTETCDIR_/musiconhold_additional		🗑
Directory	_ASTSPOOLDIR_/voicemail	PATTERNS, one per line	🗑
Directory	_ASTVARLIBDIR_/moh	PATTERNS, one per line	🗑
Directory	_ASTVARLIBDIR_/sounds/custom	PATTERNS, one per line	🗑
Directory	/etc/dahdi	PATTERNS, one per line	🗑
Directory	/etc/wanpipe	PATTERNS, one per line	🗑
Directory	/tftpboot	PATTERNS, one per line	🗑
Directory	/var/cache/aastra	PATTERNS, one per line	🗑
Directory	/opt/xactview/server/config	PATTERNS, one per line	🗑
Mysql	Config server ▾	Backup Backup_cache	🗑
Mysql	CDR server ▾	table names, one per line	🗑

Templates ⍰

✛ CDR's
✛ Config Backup
✛ Full Backup
✛ Safe Remote Restore
✛ System Audio
✛ Voice Mail
✛ Warm Standby

We can now choose which server we should perform the backup on. By default the option will be "This Server" but we want to change that to the new primary backup server we created earlier, because that is the server we want to log into and run the backup on.

Backup Server

Backup Server ⍰	Primary PBX ⇕
Restore Here ⍰	☐

We will also want to select the "Restore Here" option. This will tell the backup job to take the backup from the primary server and restore it on this backup server. We will also direct it to

"Disable Registered Trunks." This option is only needed if you have SIP trunks that are registered with your carrier or the two systems will compete for the trunk registration.

Backup Server

Backup Server ❓   Primary PBX ⇕

Restore Here ❓   ☑

Disable Registered Trunks ❓   ☑

Apply Configs ❓   ☑

If you want to also store a copy of the backup file on this server you can pick the "Local Storage" option under the "Storage" location by dragging it over.

Storage Locations

Storage Servers ❓   **Available Servers**

⊹ **Legacy Backup (local)**
⊹ **Local Storage (local)**
⊹ **Migrated FTP server (ftp)**

Storage Locations

Storage Servers ❓   **Available Servers**

⊹ **Local Storage (local)**

⊹ **Legacy Backup (local)**
⊹ **Migrated FTP server (ftp)**

Now let's setup how often we want this backup to run. To keep it simple we will pick "Daily". This will run daily at midnight. You can also pick "Custom" and set a custom schedule on when to run.

Backup Schedule

Run❓ [Daily ⏷]

Randomize ☐

Make sure you press the "Save" button when done.

[Save] [Delete]

Now that we have saved the backup we can press the "Run" option and have it run the backup and restore now to verify it all works.

[Save | and Run]

We will see on our screen a print out of the the backup job and the status at the bottom after it has completed.

Run backup   ✕

Saving Backup 3...done!
Intializing Backup 3
Connecting to remote server...
/bin/tar: Removing leading `/` fromt member names
Prossesing received file...
Storing backup...
Running post-backup hooks...
Restoring backups...

Failing over to backup server

In the event that you would like to make your backup server become the production server we need to perform a few tasks. We need to update the IP Address of the backup box to be the IP Address that the Primary PBX was so the phones and trunks know how to register to it.

Once logged into your PBX Admin GUI on your backup PBX click on the module called "Sysadmin" under "Modules" and you will see a screen like this:

System Admin

PBX Firmware: 10.814.210.57-1

PBX Service Pack: 1.0.0.24

While in the System Admin module right click on the option called "Network Settings."

System Admin

DDNS

DNS

Email Sertup

FTP Server

Intrusion Detection

License

Networking Settings

Notifications Settings

Phone Config

Port Management

From here you can change the IP address of the backup server to be the same IP that your production server was. Don't forget to remove the production server from the network before changing the IP address here or you will have an IP address conflict.

System Admin

Network Settings

Network Interface: eth0 (2.98Mb/5.53Mb) ⇕

Interface Name: ❓ eth0

IP Protocol: ❓   [None] [DHCP] [BOOTP]

Static IP: 10.4.0.22

Netmask: 255.255.255.0

Gateway: ❓ 10.4.0.254

Mac Address: mac address

On Boot: ❓   [Yes] [No]

[Save Settings]   [Add Virtual Interface]

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Schmooze Com Inc.

(920) 886-8130

http://schmoozecom.com