ScopeAR Single Node Install on a Windows Desktop Computer via VirtualBox VM

Use Case

The use case for this setup is if the client has an environment without any server capabilities. Installation is similar to the Single Node Installer setup but with more steps to get it working within a Virtual Machine (VM). Also, the performance will be worse than the server counterpart. Therefore, itâ€™s highly recommended to go with the server setup or have clients try out the product on an isolated cloud instance.

Requirements

1. Valid TLS certificate (cannot be self signed) that contains multiple domains:
   - CMS (standalone.scopear.com)
   - C2 api (c2-api.standalone.scopear.com)
   - C2 client (c2.standalone.scopear.com)
   - MinIO (minio.standalone.scopear.com)
2. Desktop Computer with 4 vCPUs, 16GB ram, and 200GB+ disk space.
3. Docker Hub account authorized by Scope AR
4. VirtualBox installed on the target machine.
5. Optional Flexnet License server install if you want model conversion capabilities.

Steps

Optional: If you want to use the model conversion capabilities of Pixyz, please follow the guide below. Note:, you will need to request a license as part of the process.
https://pixyzsoftware.freshdesk.com/support/solutions/articles/43000590629-how-to-setup-a-floating-license-server-flexnet-on-windows-

1. Download the official CentOS 8 ISO from the official website.
2. Create a VM in VirtualBox machine with the following parameters. Note: On Windows linux subsystem and hyper V must be disabled to use VirtualBox.
   - 4 CPUs
   - Memory 8GB or more
   - Disk 100GB or more depending your user case
   - Mount the CentOS 8 ISO as a virtual drive
   - Enable Port Forwarding to host machine for ports 22, 80, and 443.
     Virtual Box Port Forwarding Rules
   - See the "Shared Virtual Machine Access: Multiple Windows User Accounts" section in this document if the multiple users on the same machine need access to the VM.
3. Start the CentOS VM and go through the installation process

```
Enable Ethernet
```

```
Enter   http://mirror.centos.org/centos/8/BaseOS/x86_64/os/   for
Installation Source
Restart VM Machine as required by install process
```

4. With administration access, add the following entries to the hosts file based on your SSL certificate DNS. On Windows the host file can be found at `C:\Windows\System32\drivers\etc\hosts`.

```
127.0.0.1 standalone.scopear.com
127.0.0.1 c2-api.standalone.scopear.com
127.0.0.1 c2.standalone.scopear.com
127.0.0.1 minio.standalone.scopear.com
```

5. Get the VM Host IP by running `ipconfig` in PowerShell and record the IPv4 address of the Virtualbox ethernet adaptor for later.
6. Copy over the SSL certificate and the install package to the VM through SCP with Powershell. Rename the install package binary to scopearctl and make the file executable (chmod-x) within the CentOS VM. Make note of the location you placed the SSL certificate files.
7. Proceed with single node installation within the CentOS VM:
   - Online installation:
     Run the command below. Config parameters will be queried for interactively.
     `scopearctl singlenode install --dns-host-ip=yes`
   - Offline installation:
     Do the following on a machine with online capabilities to create an offline bundle. Youâ€™ll need the scopearctl binary on this machine as well.
     `scopearctl singlenode bundle create`
     This will create the scopear-singlenode-x.x.x directory)
     Then transfer scopear-singlenode-x.x.x along with scopearctl binary to "air-gapped" host. On air-gapped host run:
     `scopearctl singlenode install --dns-host-ip=yes --offline-bundle scopear-singlenode-x.x.x`
     Config parameters will be queried for interactively.
8. Verify that all the scopear services are running using:
   `systemctl | grep scopear`
   You can also get logs from the service with `systemctl status <service name>` or `journalctl -u <service name> -f`.
   There should be a list of services similar to the following when running `systemctl | grep scopear`:

```
session-2.scope                              loaded active running
Session 2 of user scopear

scopear-cms-redis.service                    loaded active running
Scope AR CMS Redis Instance

scopear-cms.service                          loaded active running
Scope AR Content Management System
scopear-mariadb.service                      loaded active running
Scope AR CMS MariaDB Instance
scopear-minio.service                        loaded active running
Scope AR Worklink Create 2 Object Storage (minio)
```

```
scopear-mongodb.service                    loaded active running
Scope AR Worklink Create 2 Database (mongodb)
scopear-nginx.service                      loaded active running
Scope AR nginx proxy
scopear-sidekiq.service                    loaded active running
Scope AR Content Management System - Sidekiq
scopear-turn.service                       loaded active running
Scope AR TURN Service
scopear-wlc2-api.service                   loaded active running
Scope AR Worklink Create 2 API
scopear-wlc2-client.service                loaded active running
Scope AR Worklink Create 2 Client
scopear-wlc2-mc.service                    loaded active running
Scope AR Worklink Create 2 Model Converter
scopear-zeus-redis.service                 loaded active running
Scope AR Zeus Redis Instance
scopear-zeus.service                       loaded active running
Scope AR Zeus Service
```

9. Verify that you can access Create by entering the C2 URL in your web browser.
10. Note that the CentOS VM needs to be running in order to access Create2 in the browser. If you want to have the VM autostart when the machine gets rebooted. Then follow these steps:
    - Create a shortcut.
        - Open virtualbox
        - Right click the CentOS VM
        - Create Shortcut on Desktop, this should create a shortcut on the desktop
    - Add to Windows Startup
        - Open Start menu and search for `run`
        - Type in `shell:startup` into the run text box, this should open a folder
        - Move the shortcut created in part `a` to this folder

Extras

Shared Virtual Machine Access: Multiple Windows User Accounts

By default VirtualBox will install VMs within a users home directory, meaning that indivudual user can access the machine but not very helpful in a multi-user setup.

If you need this VM to be accessible to multiple users on the same machine you will nee d to set set a system level enviroment variable `VBOX_USER_HOME` with the value being a folder path that all users can access. This variable controls the where VirtualBox stores it's preferences.

Next when creating the VM, set the "Machine Folder" to a directory that all users can access. From there all users should be able to access the VM as long as they can access the configured directories.

If the VM is already created, within VirtualBox right click on it, select Move, and then move it to a directory that all users have access to.