



Sedao Ltd

Adding SWEP hardware to a domain

Technical guide to adding Sedao SWEP computer(s) to a domain based network



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Introduction and definitions

SWEP Hardware is essentially a small form factor computer with a Windows Operating System installed.

Definitions

A **domain controller** is a server computer that is responsible for the centralised management of computers, users, authentication and policies within an organisation. The **domain** controller is administered by a **domain administrator**.

A **Workgroup** is a group of computers that operate independently, with no centralised management. The Workgroup exists purely to share resources such as a broadband connection, files and printers. Typically workgroups are used by small companies.

A **domain administrator** is usually the person tasked with managing your corporate network using the domain controller and other services.

A **SWEP Administrator** is the person who is generally responsible for the design and contents of your digital signage displays.

A **Security Group** is a logical group within Active Directory that contains one or more computers. Group Policies normally apply to Security Groups so that a standard configuration can be applied across a department or group of computers.

Introduction

A **SWEP computer** is configured at the factory to be a member of the SWEPNet workgroup. The computer has been configured with a pre-installed user profile that optimises its use for Digital Signage applications.

A SWEP computer can be connected to a domain in order for the operating system to be centrally managed. When a SWEP computer has been joined to a domain, the user profile may be automatically adjusted and may no longer be under the full control of the **SWEP Administrator**.

This document is a guide to the steps required to join a SWEP computer to a domain and includes important information for domain administrators. It includes information on how to optimise a new user profile for digital signage playback.

Pre-requisites for joining a domain

1. **COMPUTER NAME:**

Sedao Players are assigned a DNS or 'computer' name at the time of manufacture. By default this will be 'SWEP1'. If you purchased several players in a batch, the players will have sequential numbers – such as SWEP2 and SWEP3.

The domain administrator may wish to use specific computer names that differ from the defaults. When deciding on a naming convention to use, please bear in mind the scope and visibility of players on your LAN or WAN. For example, if your Bath and Bristol offices share a network, 'SWEP-Bath-Rcptn' is a better name than 'Reception'.

2. **CREATE COMPUTER ACCOUNTS:**

If your domain requires 'pre-staged' computer accounts – you will need to ask the domain administrator to generate a computer account for each individual SWEP unit. The accounts must exist before adding players to your domain unless your domain join process allows for the automatic creation of computer accounts.

3. **DO YOU NEED STATIC IP?**

If your network spans more than one subnet – and DNS does not propagate across the subnets, you may not be able to address the player using its computer name. In this case, it is preferable to set – or reserve - static IP addresses for each player so that the IP address can be used instead of the computer name. The Domain administrator can decide to enter a static IP address and other network configuration details on each player –or- the Domain administrator could make reservations in DHCP using each players MAC address. When entering a Static IP manually, you will need to obtain IP addresses for each player as well as the network subnet mask, gateway address and Primary and Secondary DNS addresses.

4. **CONSIDERATIONS FOR NETWORKS USING GROUP POLICIES:**

The Domain Administrator may have added the SWEP computer accounts to one or more Security Groups. This defines which group policies will be applied to the SWEP computers.

Guidance on policies that should be avoided is provided in more detail later in this document. The guidance includes 'Power Saving functions must be disabled', 'Screen Saver is not enforced', 'Auto Lock/Logout is not enforced' and 'Auto Login is allowed'. It is usually inappropriate to add the SWEP units to your standard 'Desktop PC's' security group. They may be better in their own unique group – or in the group to which 'Server' computers belong.

CREATE ONE OR MORE USER ACCOUNTS ON THE DOMAIN (Optional and not recommended):

Sedao Software relies upon the configuration of the built in “SWEP User” account. Even after joining the domain, it is often possible to simply log in as a local user using the local account credentials. If nonetheless, you wish to use a domain based user account – perhaps to provide access to a centralised file share – you should ensure that the account you create is also added as a local administrator of the player. Domain user accounts do not need to be mail enabled. If using a domain user account, you will need the username, password and domain name.

IMPORTANT: Please check to ensure that the Domain User account is not a member of any security group that would cause certain Group Policies to be automatically applied. Guidance on policies that should be avoided is provided in more detail later in this document. The guidance includes ‘Power Saving functions must be disabled’, ‘Screen Saver is not enforced’, ‘Auto Lock/Logout is not enforced’ and ‘Auto Login is allowed’. It is usually inappropriate to add the user account to your ‘Standard Users’ security group. The accounts might be better off created in their own unique group – or in the group to which ‘High Performance/Low risk’ users belong.

5. Certain versions of Windows ship with the ‘Connect’ wizard on an internal intranet. This makes joining the domain simpler. However, you should bear in mind that migrating a user profile using the wizard is irreversible. If the player leaves the domain or the domain user account is changed, then the SWEP user profile will need to be recreated.

Notes for domain administrators

Notes on Group Policies

When creating or selecting a Security Group for the digital signage players – and optionally for the domain user accounts - the below points should be carefully considered:

1. **Automatic updates**

If Automatic Updates are controlled by Group Policy, you may not be able to change the settings from the SWEP computer.

Domain policies usually dictate automatic updates will occur automatically and the PC will be restarted on a schedule. You may wish to ensure the policy for the PC does not allow the restart at peak viewing times. Also you should ensure updates are applied if possible, without interaction being required.

2. **Action Centre Messages in Windows**

If Action Centre Messages in Windows 7 are controlled by group policy, you may not be able to change the settings from the SWEP computer

Domain group policies usually dictate the Action Centre Messages that are displayed to the end user. You may wish to consider disabling non-essential messages that might appear on the signage display. Most organisations will be using centrally managed security software. Your security software should be configured to operate without interaction and should perform any scheduled tasks outside of peak viewing hours to ensure optimal signage playback.

3. **Anti-Virus and Firewall.** We encourage end users to add their own anti-virus and to leave Windows Firewall enabled.

4. **Login Scripts / Logon Policies**

The SWEP computer will only be able to recover from a power failure without assistance if it is not interrupted during login by interactive login scripts and/or, interactive copyright or similar corporate notices.

5. **Automatic Lock / Automated shutdown.**

It is suggested you ensure group policy will not forcibly lock the player after prolonged inactivity, or shut the player down at the end of the working day (unless that is desired).

6. **Remote Desktop**

Technically, the SWEP computer is able to support remote desktop. In practice it is not sensible to allow remote desktop connections as they are not practical for use on the player(s). This is due to (1) remote desktop creating a new user session and the changes not being applied to the 'current' user session and (2) after a session is terminated, the current session is not displayed on screen until the player is unlocked – which would require an active VNC connection or a physically connected keyboard /mouse. For these reasons - Remote Desktop is disabled by default. Your group policies might enable Remote Desktop automatically or you can use VNC or a physically connected keyboard/mouse if you wish to enable the function. VNC is our preferred remote control application. With VNC you control the active session and as such, the active session is not 'logged out' when VNC is disconnected.

Other important information for the Domain Administrator

7. Potential Security Implications

If the domain administrator is not the person installing this hardware, they should be advised of the actions that have – or are about to be undertaken – when connecting and configuring the player(s).

To ensure you meet corporate guidelines, please ensure the use of TightVNC is permitted in the environment.

Please note that by default, two file shares are made available to ALL network users. These are **C:\Sedao** and **C:\Incoming**. Permissions can be imposed to restrict editing files in these folders to an intended group of users.

8. 802.1x

The SWEP computer can support networks that require 802.1x authentication – but this support is NOT enabled by default. The concepts and requirements for using 802.1x are beyond the scope of this manual. To get started, you need to enter 'services.msc' and enable "Wired AutoConfig". You then need to request and install the required certificates from your network administrator. DHCP should be to verify the 802.1x authentication has been successful.

Joining a SWEP player to a domain manually (Standard)

Note: You cannot join the player to the domain, or make the new user profile unless you are on site and connected to the correct network.

You will need to know the correct Username, Password, Computer Name and Domain Name. The domain administrator will also need to enter administrative credentials at one point during this process.

1. For Windows 7 – Left click the start menu 'Flag'. Right click 'Computer' and select Properties. In the window that opens, find the 'Computer name, domain and workgroup settings' section and click 'Change settings'.

For Windows 10 – Right click the start menu 'Flag', select 'System'. In the window that opens, find the 'Computer name, domain and workgroup settings' section and click 'Change settings'.
2. Click '**Network ID**'
3. Click '**This computer is part of a business network**' > Next.
4. Click '**My company uses a network with a domain**' > Next.
5. Enter the username, password and domain name. > Next.

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6. If the message “Your computer account has been found in the domain...” appears, check the details carefully. If they are correct, click ‘Yes’, otherwise click ‘No’.
7. If necessary, enter the computer name supplied by the domain administrator and repeat the domain name. > Next
8. Ask the domain administrator to input a username, password and domain name for an account that is authorised to add items to the domains active directory.
9. Select your preference when prompted to add the domain user account to the player. Every SWEP computer comes with a local user account that you can continue to use after joining the domain. You can optionally use a domain account of your choice.
10. If you selected a domain account, select the level of access the domain user will have on the local computer. Administrator would be preferable during the configuration process.
11. Restart the PC when the wizard prompts > Finish > OK > Restart.
12. Depending on the Group Policies for the computer, additional software and updates might be installed during the computers startup process.
13. Log in using the user account specified by the domain administrator. Ensure you choose the correct domain at the login screen.
14. If you logged in using a domain user account – the player may be configured with additional software and updates, according to the group policy settings.

Re-creating the user profile (Standard)

When joining the SWEP computer to a domain and logging in with a domain account, the settings defined at the factory will not be retained. There are two options at this point:

- a) You can continue to use the built in user account after adding the PC to the domain. This is the simplest method as the account is already configured. However, the account will not have any permission with regard to network resources. You can log in as “.\SWEP User” with the password ‘admin’. The “.\” in the username is replaced automatically with the DNS or computer name of the player.
- b) You can log in with the domain based account you created earlier. This will give you access to file shares across the network.

Regardless of the method of login, as a member of the domain, the computer will receive its ‘computer’ settings such as Windows Updates, security software and compliance settings as defined by the domain administrator. If you are using a local user account, but need to apply

software allocated in Group Policy to 'Users' - you may need to log in with a domain based user account on one occasion.

If using a domain based user account, you will have to reconfigure settings and preferences as specified below:

1. Control Panel > User Accounts > Check the account you are using is an Administrator of the local PC. You may need to enter domain administration credentials if prompted.
2. Reset your preferred screen resolution. Check ALL display devices.
3. If Wallpaper is present, it can be disabled
4. Screen Saver should be disabled
5. Power Options should be set to Never
6. In Taskbar properties > Customize notification Area > enable "Always show all icons".
7. In Computer Properties – Advanced System Settings > Performance Settings – select "Best Performance".
8. For Windows Firewall – create a Program Exception for "Launch TightVNC Server"
9. Also for Windows Firewall – create an inbound Port rule: Port 80 – named "Apache2" with a scope of "Domain Networks"
10. Edit the registry key: HKLM\Software\Microsoft\Windows NT\WinLogon
AutoAdminLogon = 1
DefaultUserName = <UserName>
DefaultDomainName = <Domain Name>

Then from the 'Flag' prompt open NETPLWIZ. Uncheck the option 'Users must enter a Username and password. Click OK then enter the credentials required for automatic logon.

11. Set internet Explorer homepage to http://localhost
12. Create RSS Writer / Quick Change Project / Content Publisher desktop shortcuts
13. Add ImageFlyer startup Shortcut
14. Check if you need to enter proxy settings for internet access.
15. IMPORTANT - Check the licensing details of all Sedao applications that you purchased. It might be necessary to re-enter some license details after adding the player to the domain.

Re-configuring ImageFlyer (Standard)

You will also need to re-configure some settings in ImageFlyer

1. Open a default presentation in ImageFlyer – for example:
C:\Sedao\Presentations\screen-001.SIF
2. Open AND set the default hot keys in ImageFlyer - **C:\Sedao\Imageflyer.hks**
3. Open AND set the default schedule in ImageFlyer - **C:\Sedao\ImageFlyer.SCH**
4. In ImageFlyer Preferences, set '**Assert on top**' to On
5. Set the Status type to XML and configure the template to -
C:\www\swepnet\website\sedao_core\backups\status.xml
and the Save As... to -
32 bit players:
C:\Program Files\Sedao Ltd\ImageFlyer\Templates\Xml.ift
64 bit players:
C:\Program Files (x86)\Sedao Ltd\ImageFlyer\Templates\Xml.ift

Once you have configured the above settings, power off the player. Switch back on to check the player logs in automatically and ImageFlyer begins automatic playback.

If you have failed to configure any of the points above, this should be addressed before the player is put into service. Refer to your domain administrator or seek advice from your Sedao representative.

Removing a SWEP computer from a domain

IMPORTANT NOTE if you used the 'Connect' wizard:

If you joined the domain using the 'Connect' wizard on the local intranet, then the user profile 'SWEP User' has been migrated and will be deleted when you leave the domain. You will therefore need to create a new local user account before starting the below process. Failure to do so could render you unable to log in to the player. When using the new non-domain user account – you will need to follow the steps in 'Re-creating the user profile' and 'Re-configuring ImageFlyer'.

In the event that you wish to remove a computer from a domain, you can revert it to workgroup in a few simple steps.

1. You may need to remove centrally managed security software and then install stand-alone security software. The domain administrator should be able to choose the correct options as appropriate.
2. For Windows 7 – Left click the start menu 'Flag'. Right click 'Computer' and select Properties. In the window that opens, find the 'Computer name, domain and workgroup settings' section and click 'Change settings'.

For Windows 10 – Right click the start menu 'Flag', select 'System'. In the window that opens, find the 'Computer name, domain and workgroup settings' section and click 'Change settings'.
3. Click '**Network ID**'
4. Click '**This computer is part of a business network...**'
5. Click '**My company uses a network without a domain**'
6. Type your preferred workgroup name or use '**SWEPNET**' if one has not been suggested.
7. Click 'Finish', then 'OK'. Restart the PC when prompted.

Note: You can now log back in as the local "SWEF User" account with the password 'admin'. If you use an alternate account you will need to run through the 'Recreating the user profile' and the 'Re-configuring ImageFlyer' checklist.

8. Open NETPLWIZ. Uncheck the option 'Users must enter a username and password...'. Enter the username and password that are used to log in locally to the PC. By default this is 'SWEF User' and 'admin'.
9. If the domain used to use "Offline Files" this setting may remain and needs to be removed manually. Open 'Sync Centre' and terminate any synchronisation links between this player and the domain it used to be joined to.

Once you have configured the above settings, power off the computer. Switch back on to check automatic login is successful and ImageFlyer starts presenting automatically.

Adding a player to a domain using the 'Connect' wizard.

Some versions of Windows Server feature the '**Connect**' wizard hosted on a local intranet. This aims to assist users in migrating from a stand-alone system to a domain-joined system.

The pre-requisites are the same as specified earlier in the document.

You will need to know the correct Username, Password and Computer Name. The domain administrator will also need to enter administrative credentials at one point during this process.

1. Log in as 'SWEP User' so you can migrate the profile successfully.
2. Open internet explorer and navigate to the '**Connect**' wizard. For example:
<http://connect>
3. Click 'Start Connect Computer Program'. If prompted, install the software that is required.
4. Click 'Set up this computer for myself'
5. The hardware requirements for joining the domain will be verified automatically. Click 'Next' when complete.
6. Type your Domain username and password.
7. Verify your computer name and description.
8. In the 'Move existing data and settings' select "SWEP User" to migrate that profile.
9. Verify the details then click 'Restart'
10. The PC will restart twice. DO NOT interact during the restart. Wait for a 'logon' or 'unlock' prompt to remain on screen.
11. Login with the username and password that the domain administrator provided.
12. There may be additional steps after first logon - depending on the options chosen by the domain administrator.

Re-creating the user profile ('Connect' Wizard ONLY)

When joining the SWEP computer to a domain using the '**connect computer**' method above, the migrated account profile only needs a few minor adjustments:

1. Reset your preferred screen resolution. Check ALL display devices.
2. If Wallpaper is present, it can be disabled
3. Edit the registry key: HKLM\Software\Microsoft\Windows NT\WinLogon
AutoAdminLogon = 1
DefaultUserName = <UserName>
DefaultDomainName = <Domain Name>

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Then from the 'Flag' prompt open NETPLWIZ. Uncheck the option 'Users must enter a Username and password'. Click OK then enter the credentials required for automatic logon.

4. Set internet Explorer homepage to <http://localhost>
5. Check if you need to enter proxy settings for internet access.
6. IMPORTANT - Check the licensing details of all Sedao applications that you purchased. It might be necessary to re-enter some license details after adding the player to the domain.

Re-configuring ImageFlyer ('Connect' Wizard ONLY)

ImageFlyer will retain its settings and preferences if the user profile is migrated successfully.

Once you have configured the above settings, power off the computer. Switch back on to check automatic login and that ImageFlyer starts presenting automatically.

Testing the installation / operation after joining a domain.

Please ensure you can contact the SWEP computer using the following methods. In testing this, it is suggested you use a typical PC, logged in as one of the user accounts that will be responsible for the overall design of your digital signage displays.

SWEP1 should be substituted for the DNS name / IP address or FQDN of each of your SWEP computers – as appropriate.

A. Check you can open the Windows File share

Windows file shares are used to transfer content to the player(s). The file shares are available to 'Everyone' by default, but the domain join may have restricted this to specific users. Open 'My computer' and type: <\\SWEP1\Sedao>. Can you see the files and folders? Content Publisher and other Sedao Applications rely on these file shares to be working properly.

B. SWEP Web Interface

The web interface is used to make 'real time' changes to many of the elements of the digital signage display. Joining the domain may impact the default firewall settings. Open 'Internet Explorer' and type: <http://SWEP1>. This connects to the players Apache web server on port 80. Can you see the login screen? If you cannot, then one of the key features of Sedao hardware will not be available to your users.

C. VNC

The VNC client allows you to gain access to the player for administrative and support purposes without imposing the 'logout' effect of using terminal services / remote desktop. Joining the domain may impact the firewall settings this application relies on. Open 'TightVNC Viewer' and connect to 'SWEP1'. Can you view and interact with the screen? The TightVNC server on the player uses ports 5800 and 5900. If your desktop clients have JAVA installed, the VNC client can also be accessed via the SWEP web interface.

Configuring 3rd party firewall for SWEP

SWEP uses an Apache Web Server and MySQL Database Engine. It also relies upon a number of tools for un-archiving presentations and performing network functions. If you need further information on what is included, please contact Sedao Technical Support.

If you have installed a 3rd party firewall product or have a hardware firewall appliance, SWEP features may not operate as intended. Please check the below table to troubleshoot connectivity issues with the web interface.

Port / Executable name	Application Name	Scope
Port 80	Apache2	Open for local subnet or subnet required to enable web access from content editors PC's.
Application / WinVNC.EXE	Launch TightVNC Server	Allowed for local subnet or subnet required to enable access from content editors PC's

Summary

You should now have all the information required to successfully join a SWEP computer to a domain based network.

A handy checklist that may help:

When using the standard domain join method.

- a) You can either create a user profile using the username provided by the domain administrator while on site – or you can choose to log on locally to the player, once

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you have joined the domain. If you later take the player off the domain, the 'SWEP User' profile will remain intact.

The domain administrator may request that you log on using a domain account on at least one occasion to ensure policies and software are properly applied.

- b) You will need to know the correct **Username, Password, Computer Name** and **Domain Name**. The domain administrator will also need to enter administrative credentials at one point during the process.

When using the 'Connect' wizard (only available on specific versions of Windows Server)

- a) You can quickly and easily migrate the 'SWEP User' profile. However, should the PC be removed from the domain you will need to recreate the settings in the 'SWEP User' account profile.
- b) You will need to know the correct **Username, Password and Computer Name**. The domain administrator may also need to enter administrative credentials at one point during the process.

Further Information

Sources for Further Information

Your Sedao Representative

Your Sedao representative will be able to assist you with any problems or queries you may have, or put you in direct contact with a technical specialist. Depending on your region, it may be possible to book on-site, off-site or remote log-in training with Sedao through your representative. There is also a range of artwork, template and screen creation services available on request. Software patches and updates are also available.

The Sedao Website

Create an account here to gain access to the latest software and further information and assistance: www.sedao.co.uk