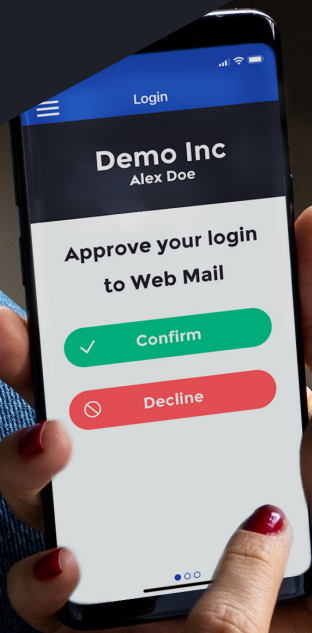




Multi-Factor Authentication

Product Technical Sheet



Pointsharp Multi-Factor Authentication

Secure login that is easy for your users and the IT department. Support for mobile solutions and a flexibility that meets Enterprise requirements. With Pointsharp, you get one solution for all logins and a centralized insight how users login.

Easy

Put complicated One-Time Password to the history and make it easy for the user with the Pointsharp Login App that do more than Multi-Factor Authentication (MFA).

Secure

You can customize the deployment to ensure all security requirements are met.

Even highly regulated environments where no data can live in the cloud can be met without any loss of functionality.

Enterprise

The larger the organization, the more flexibility is required to ensure one solution that cover all the use cases. Pointsharp is an authentication product that include many Enterprise features to so the product can adopt to the organization and not the opposite. Delivered as software that run in your infrastructure, on-premises or your choice of the cloud.

Benefits with Pointsharp MFA

Challenge

Cloud and mobility drives hybrid environments and it is easy to lose control on how your organization protects the digital identities.

Solution

Consolidate into one authentication solution that is easy for the users, separated from your applications and provide full insight how it performs.

Includes

- Login App
- One-Time Password
- User Portal
- Admin Portal
- App Portal
- Insight & Analytics
- Smart Authentication
- AD FS
- Login Modules
- AD Protection
- Support



Easy Login App

Multi-Factor Authentication

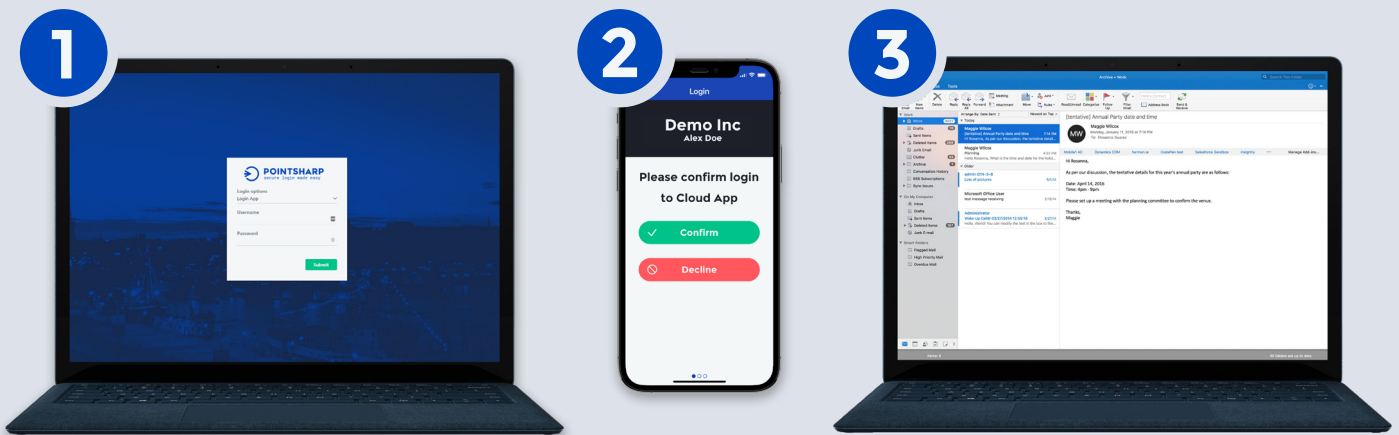
Pointsharp Login App makes it easy for the users to log in securely with Multi-Factor Authentication to their applications in the cloud and on-premises.

1. The user login to the application with user identity and password.

2. The user receives a push notification on the phone to confirm the login and to which application.

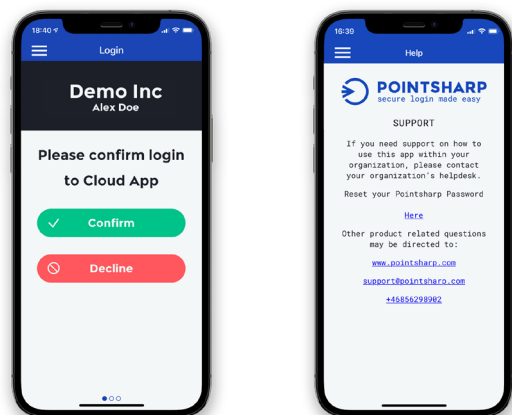
3. The user confirms with an easy push and get access to the application.

No complex second step that require the user to enter a One-Time Password.



Branding & Support

Pointsharp Login App do more than MFA, it also help the user to connect with helpdesk and get support. The user can get access to frequent support tasks e.g. Password Reset when the user have forgotten the password. It is 100% customizable to get the look and feel of the users company and brand.



Login with Biometrics

Pointsharp Login App supports Biometric Authentication and allows the user to log in using fingerprints, IRIS and face recognition using the sensors on the device.



Login with the Smartwatch

The user can also use the smartwatch to quickly and easily confirm the login to the application on-premises or in the cloud.

Easy Onboarding

Getting started with Pointsharp Login App is easy and done within a minute with Pointsharp User Portal.

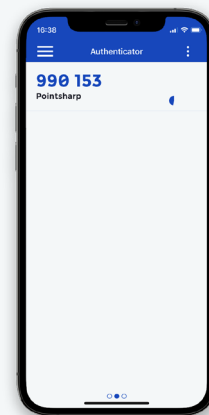
1. The user login in with an OTP via SMS and receives a download link via SMS to install the Login App.
2. The Login App is configured by taking a photo of a QR code in the User Portal.



Authenticator

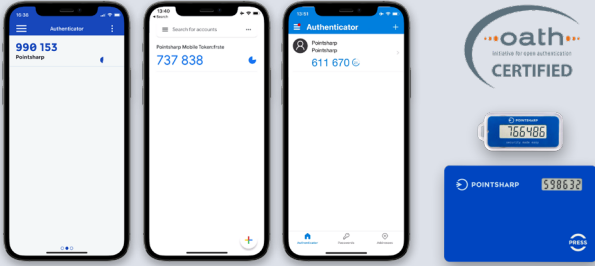
Pointsharp Login App also supports multiple authenticator profiles to generate One-Time Password. Both business and private profiles included.

Based on the same OATH standard as Google Authenticator.



One Time Password

In addition to the Pointsharp Login App, Pointsharp support many methods of Two-Factor Authentication (2FA) with One-Time Password (OTP). All methods are included and provides the ability to find the right authentication method for specific user groups or scenario.



Tokens can be deployed by User Portal or automated via Active Directory.

2FA Methods with One Time Password

Following 2FA methods with OTP tokens are included and supported by Pointsharp with easy onboarding:

- Pointsharp Software Token/ Login App
- SMS One Time Password (SMS OTP)
- Pointsharp Hardware Token
- Google Authenticator
- Microsoft Authenticator
- 3rd party OATH tokens
- SMS and One-Time Password
- Google Authenticator One-Time Password

User Portal

Pointsharp User Portal provide users an easy-to-use self-service portal that simplifies the process of onboarding and allow users to manage their passwords, 2FA and MFA tokens as well as register Device DNA of supported Apps.

The User Portal is designed with responsive web design so it works well on both mobile and larger devices e.g. tablets and computers.

Easy Onboarding

Onboard large volume of users with Pointsharp User Portal. A notification by SMS with a One-Time Password authenticates the user first time. Notification also instructs the user how to download the Pointsharp Login App, which is then configured by a QR code.

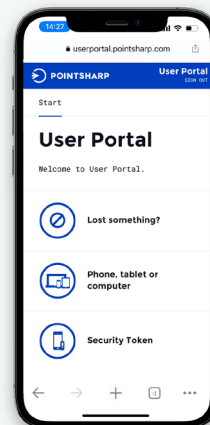
- Pointsharp Login App
- App DNA
- Google Authenticator
- Hardware Tokens

Token and App Management

Support of daily self-service management tasks like removing or adding new tokens or registering new Device DNA of mobile apps.

Password Management

Manage the Microsoft Active Directory Password* (also named Domain Password or Windows Password) or the Pointsharp Password*.



Admin Portal

Pointsharp Admin Portal provides an easy interface to administrate all the users with tasks like.

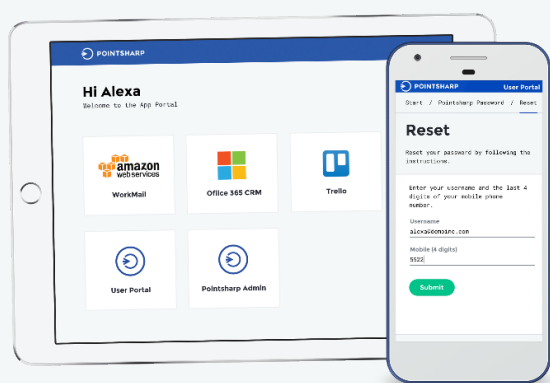
- Manage User Tokens and Devices.
- Enable and Disable users.
- Audit user activity.

Social Engineering Protection

To ensure the identity of a user, helpdesk can request the user to authenticate with a Push Notification or a One-Time Password.

Notification

Helpdesk can broadcast messages to users either with Push Notifications or SMS.



App Portal

Pointsharp App Portal make it easy for your users to login and access application that are hosted both on-premises and in the cloud.

Easy SSO

The user only need to login once to the Pointsharp App Portal and then get Single Sign-On to published applications both on-premises and in the cloud.

- Federated SSO with AD FS integration.
- On-Premises SSO with Kerberos.

Secure Login and Access

The user login securely with the Pointsharp Login App and access on-premises application via Pointsharp WAP* or 3rd party access solution.

Smart Authentication

Smart Authentication is a powerful authentication engine that can be configured with multiple policies based on information like:

- User information – attributes and groups.
- LDAP catalog.
- Authentication sources.

Policies then decide how and what method a user should be authenticated with.

Smart Authentication includes a RADIUS proxy that allow a smooth transition from an old authentication solution.

AD FS MFA

Pointsharp provide two different integration options with Microsoft AD FS.

MFA Adapter

Pointsharp integrate with Microsoft AD FS with the MFA Adapter, taking control of the second step with the Pointsharp Login App or any of our supported One-Time Password options. From AD FS 2019 both steps are supported.

Full Protection

Pointsharp Security Token Service (STS) take control of both first and second step of the authentication within ADFS. Full Brute-Force and Denial-Of-Service protection. Only authenticated users by Pointsharp is allowed to retrieve a federated ticket from Microsoft AD FS. All user interfaces are handled by Pointsharp with custom branding options available.

Insight & Analytics

Pointsharp Dashboard visualize in real-time how user login and to what application. The Dash-board is interactive providing detailed information about users and more with just a click.

Centralized Control

All access to applications published by Pointsharp Gateway can be both granted and denied with centralized control. It's as easy to enable a user as to disable the user when required.

Cybercrime Activities

Pointsharp protects from Brute-Force and Denial-of-Service Attacks, with the Dashboard is also visualized.

Big Data

All information how user login is stored in a SQL database, allowing access from 3d party tools for more analytics.



Login Modules

Pointsharp include modules that enable Pointsharp MFA in other applications.

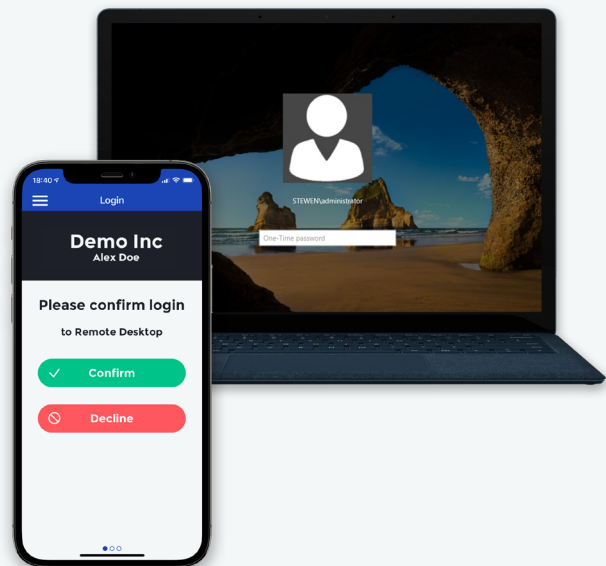
Credential Provider

Secure login with to Windows Server or Remote Desktop with Pointsharp Credential Provider.

- Pointsharp Login App with Push
- One-Time Password

IIS Integration

Login module that integrate with Microsoft IIS. Support Basic and NTLM with Pointsharp Login App for MFA.



AD Protection

The user account in Active Directory is protected by Pointsharp handling all user authentication request.

- Brute-force Protection
- Denial-of-Service Protection
- User Account Lock-out Protection

Support

Pointsharp support is included in the license subscription with option to upgrade to Premium Support.

Support System

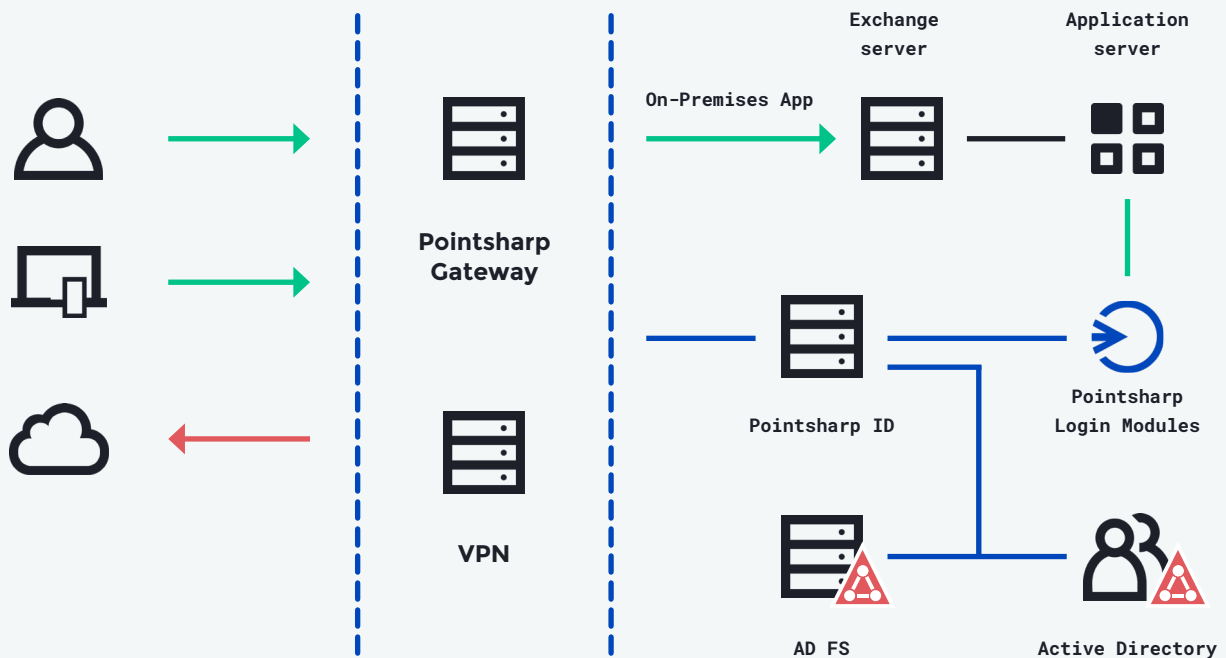
Pointsharp support system provides access to information and downloads of Pointsharp products in one place.

- Placing and tracking support tickets.
- Knowledge database.
- Integration and other use full documents.
- Product downloads.

Technical Overview

Pointsharp provide software that run on Windows Servers, with the choice of deploying in your on-premises or cloud infrastructure. A non-redundant deployment exist of two instances, the internal Pointsharp ID and the

Pointsharp Gateway placed on a DMZ. It's a split security design that meet Enterprise security requirements. Redundancy is easily achieved by multiplying the servers.



Pointsharp ID

- Authentication Server
- Read users from Active Directory (or LDAPv3)
- Store user information in Pointsharp User Storage (can be same AD). Encrypted with AES-256.
- Auditing information stored in SQL-Express or 3rd party SQL-database.
- Hosting User Portal, Admin Portal, App Portal, Password Reset* and other web interfaces. Can be separated.
- APIs – RADIUS | Web Service | Power Shell

Pointsharp Gateway

- Pointsharp Security Gateway*
- Authentication Proxy for Pointsharp Login App
- Runs on Microsoft IIS.

Pointsharp Login Modules

- Credential Provider for Windows Server, Remote Desktop, VDI solutions.
- IIS SSO Module.

Compability

Pointsharp works with all major applications and access solutions.

- Cisco VPN/AnyConnect
- Citrix Netscaler Gateway
- Citrix Netscaler MPX/VPX
- Citrix ShareFile Enterprise
- Citrix XenApp
- Citrix XenDesktop
- G Suite
- Microsoft Exchange
- Microsoft IIS
- Microsoft Office 365
- Microsoft Remote Desktop
- Microsoft SharePoint
- Microsoft Skype
- Open VPN
- Palo Alto Networks
- Pulse Secure
- Salesforce
- Trello
- WatchGuard
- * RADIUS Clients
- * SAML/ADFS Supported Apps
- *) General support for RADIUS and SAML/ADFS (Federated) supported applications.

Add-On Modules

Pointsharp MFA provide additional functionality by adding Add-On Modules. Features marked with * are depending on those modules.

- Pointsharp Security Gateway
- Pointsharp Active Directory Password Reset
- Pointsharp Password
- Pointsharp Certificate Portal

```
/// <summary>
/// <param name="value"></param>
[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern int ClosestPowerOfTwo(int value);

/// </summary>
/// <para>Returns true if the value is power of two.</para>
/// </summary>
/// <param name="value"></param>
[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern bool IsPowerOfTwo(int value);

/// <summary>
/// <para>Returns the next power of two that is equal to, or greater than, the argument.</para>
/// </summary>
/// <param name="value"></param>
[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern int NextPowerOfTwo(int value);

/// <summary>
/// <para>Converts the given value from gamma (sRGB) to linear color space.</para>
/// </summary>
/// <param name="value"></param>
[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern float GammaToLinearSpace(float value);

/// <summary>
/// <para>Converts the given value from linear to gamma (sRGB) color space.</para>
/// </summary>
/// <param name="value"></param>
[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern float LinearToGammaSpace(float value);

/// <summary>
/// <para>Convert a color temperature in Kelvin to RGB color.</para>
/// </summary>
/// <param name="kelvin">Temperature in Kelvin. Range 1000 to 40000 Kelvin.</param>
/// <returns>
/// <para>Correlated Color Temperature as floating point RGB color.</para>
/// </returns>
[FreeFunction(IsThreadSafe = true)]
public static Color CorrelatedColorTemperatureToRGB(float kelvin)
{
    Color ret;
    Mathf.CorrelatedColorTemperatureToRGB_Injected(kelvin, out ret);
    return ret;
}

[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern ushort FloatToHalf(float val);

[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern float HalfToFloat(ushort val);

/// <summary>
/// <para>Generate 2D Perlin noise.</para>
/// </summary>
/// <param name="x">X-coordinate of sample point.</param>
/// <param name="y">Y-coordinate of sample point.</param>
/// <returns>
/// <para>Value between 0.0 and 1.0. (Return value might be slightly beyond 1.0.)</para>
/// </returns>
[FreeFunction(IsThreadSafe = true)]
[MethodImpl(MethodImplOptions.InternalCall)]
public static extern float PerlinNoise(float x, float y);

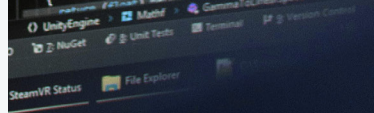
/// <summary>
/// <para>Returns the sine of angle f.</para>
/// </summary>
/// <param name="f">The input angle, in radians.</param>
/// <returns>
/// <para>The return value between -1 and +1.</para>
/// </returns>
public static float Sin(float f)
{
    return (float) Math.Sin((double) f);
}

/// <summary>
/// <para>Returns the cosine of angle f.</para>
/// </summary>
/// <param name="f">The input angle, in radians.</param>
/// <returns>
/// <para>The return value between -1 and 1.</para>
/// </returns>
public static float Cos(float f)
{
    return (float) Math.Cos((double) f);
}

/// <summary>
/// <para>Returns the tangent of angle f in radians.</para>
/// </summary>
/// <param name="f"></param>
public static float Tan(float f)
{
    return (float) Math.Tan((double) f);
}

/// <summary>
/// <para>Returns the arc-sine of f - the angle in radians whose sine is f.</para>
/// </summary>
/// <param name="f"></param>
public static float Asin(float f)
{

```



Pointsharp is a European cybersecurity company that enable organizations to secure data, identities and access in a user friendly way. Because we believe easy to use security solutions lays the foundation for a modern digital workplace.

We deliver European made software and services that are made to support even the highest security and regulatory demands of large enterprise organizations and governmental institutions.

Our customers can be all around the world, often in markets requiring extra high levels of security, like the financial, governmental, industrial and defense sectors.

You can find our HQ in Stockholm, Sweden but we also have offices in Finland, Germany and the Netherlands.

Pointsharp – Security made easy

**Contact us for more
information or a demo**

sales@pointsharp.com

