


IoT in the Real World

Secure Remote Access for Smart Infrastructure

A stylized illustration of a road with a dashed white line. On the road, there is a yellow bus on the left, a blue car in the middle, a white bus on the right, and a yellow van on the far right. In the background, there are silhouettes of buildings and a house. The overall theme is smart infrastructure and IoT.

In this short guide, we will show you how we have built a secure, simple, customisable and scalable remote access solution for all AGFEO TELEPHONE AND COMMUNICATION SYSTEM users.



FINE GRAINED ACCESS CONTROL

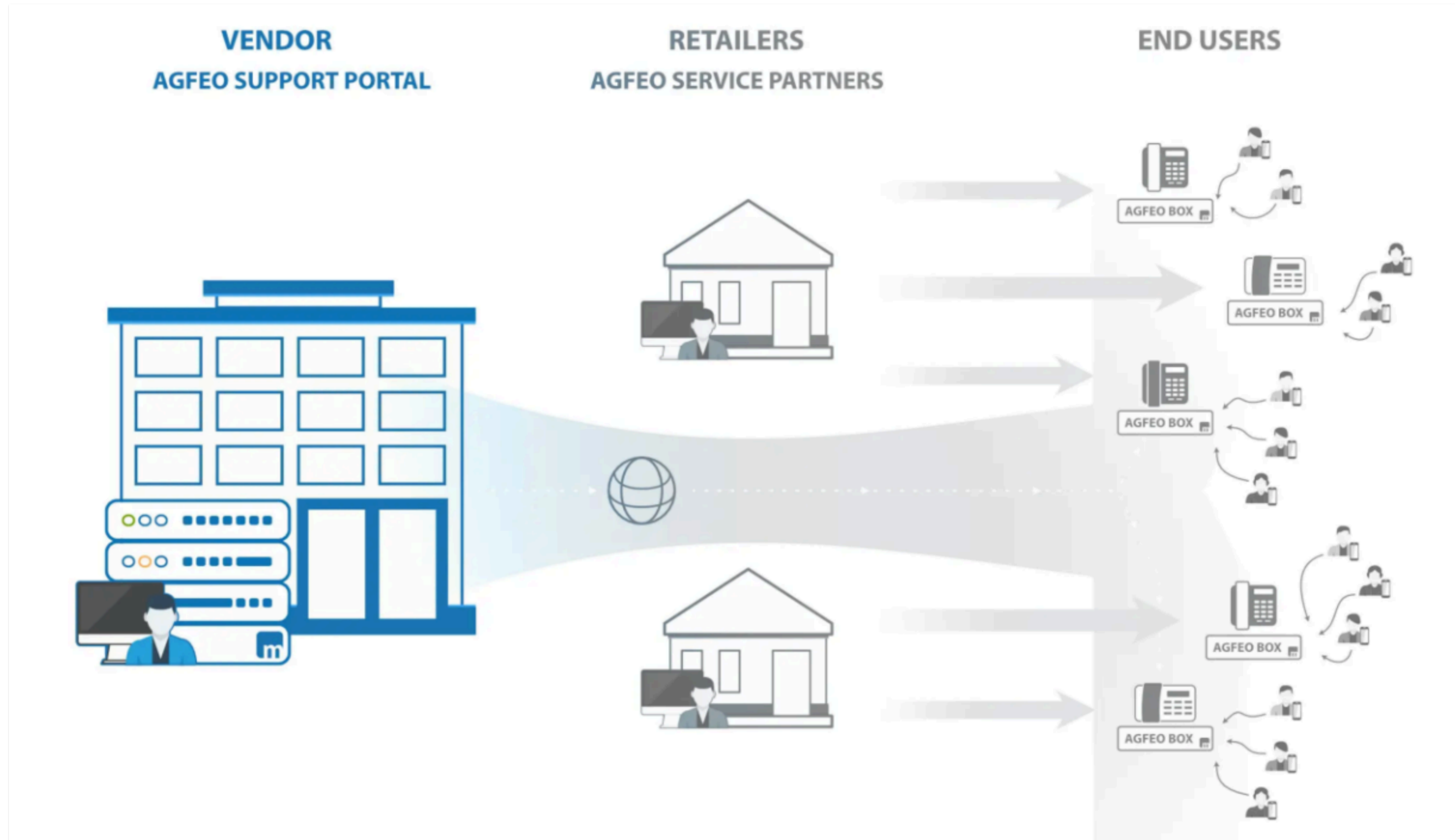
Fine grained access control for data security and privacy

Remote access to PBX (telephony) systems is like a tricky puzzle. You need to protect your data, your devices, your network and allow all users remote and secure access.

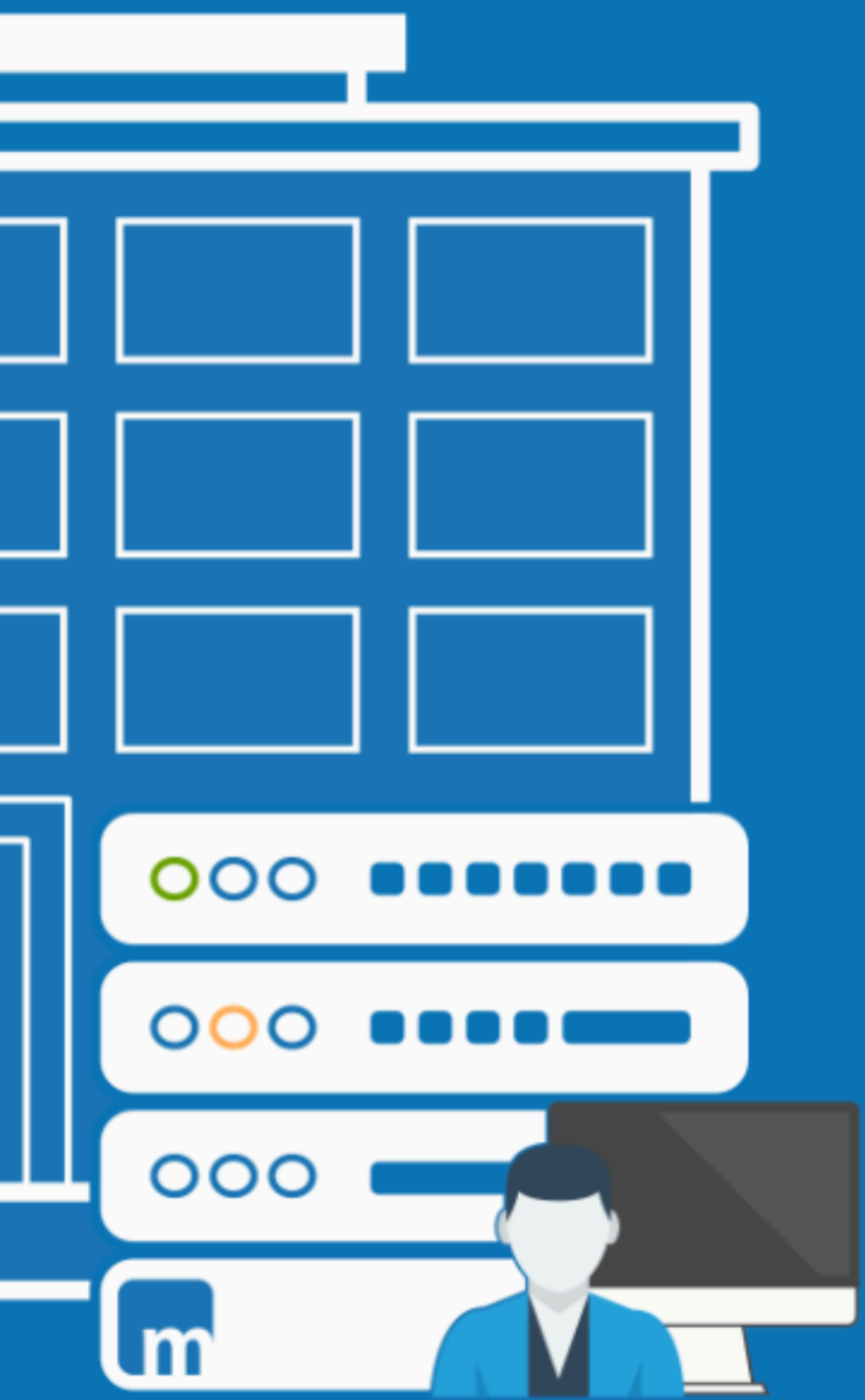
Recognising this, AGFEO wanted to provide their service partners, end users and internal support staff with a secure way to access their telephony systems.



AGFEO SUPPORT PORTAL



- We connected the macchina.io REMOTE server to AGFEO's LDAP database, which contains all account data for service partners (retailers).
- We allowed service partners to add their own user accounts in macchina.io REMOTE (but not in LDAP) in order to manage their own IoT devices and customers.
- We used macchina.io REMOTE's flexible authentication and authorisation system to validate logins and access rights based on LDAP data.
- We enabled service partners and end users to grant or revoke access to AGFEO support directly from their AGFEO dashboard, with a simple click of a button.



AGFEO SUPPORT PORTAL

Seamless and secure authentication and authorization

In order to make remote access easy and secure for all users and devices, we have integrated macchina.io REMOTE with all AGFEO accounts for service partners and end users.

macchina.io REMOTE has a flexible authentication and authorisation system based on permissions and roles. The authorization and authentication system controls which devices can be accessed and which actions can be performed by each user.

Privacy is respected

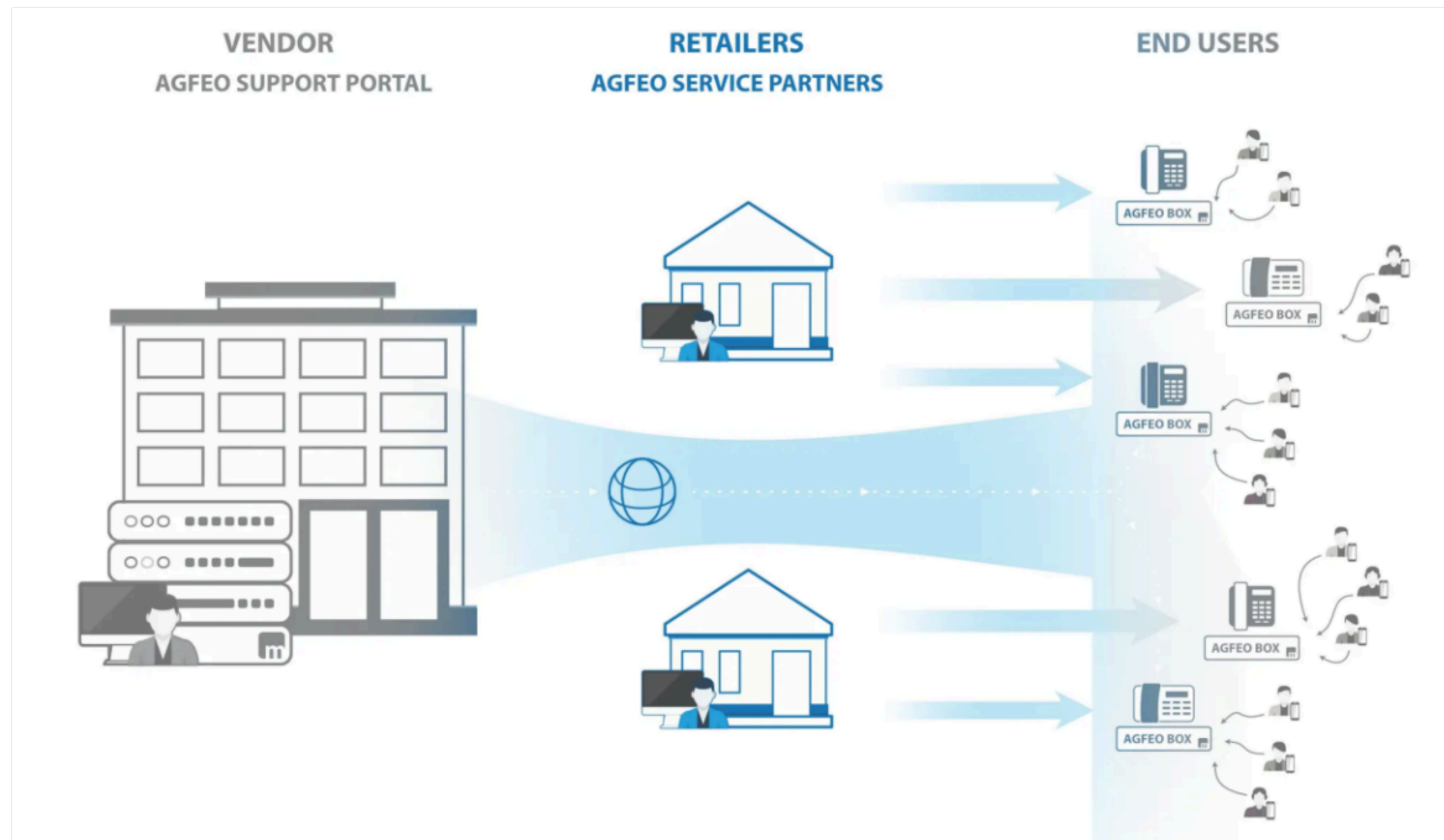
We understand that end users or service partners may not want to give the AGFEO support team permanent access to their devices, especially if they are not experiencing any problems. That's why we've made it easy for them to control when and how the AGFEO support team can access their devices.

With macchina.io REMOTE, service partners and end users can grant or deny access to the AGFEO support team directly from their AGFEO dashboard, with a simple click of a button. In this way, they can decide when they need AGFEO support and when they want to keep their devices private. This feature ensures that everyone's privacy is respected and that trust is maintained between all parties involved.

Seamless and secure authentication and authorization

User accounts can be managed by a privileged user, called a tenant. Using tenants in macchina.io REMOTE, service partners can add their own user accounts to manage their own equipment and customers, without affecting the AGFEO database. This feature provides flexibility and scalability for user management, as well as security and isolation for different tenants.

AGFEO SERVICE PARTNERS



- We enabled AGFEO's service partners to securely and easily access their customers' telephony systems.
- We provided service partners with remote maintenance of their customers' PBX systems, allowing them to remotely configure and troubleshoot PBX systems without having to physically visit the site.
- With macchina.io REMOTE fine-grained access control, we allowed service partners to grant (temporary) access to additional users (vacation mode*).
- We enabled remote user access management, resulting in cost savings for end users and significantly improved quality of service and support.



AGFEO SERVICE PARTNERS

Secure remote access to PBX systems

By integrating our versatile and easy to use remote access solution, macchina.io REMOTE has enabled service partners to access their customers' telephony systems securely and effortlessly.

Service partners can now enjoy the convenience of secure remote access to PBX systems. This means they can configure and troubleshoot PBX systems remotely, without having to visit the site physically. How cool is that?

This results in cost savings for end users and significantly improved quality of service and support.

They can also monitor and manage multiple PBX systems from one dashboard, making life easier and more efficient.

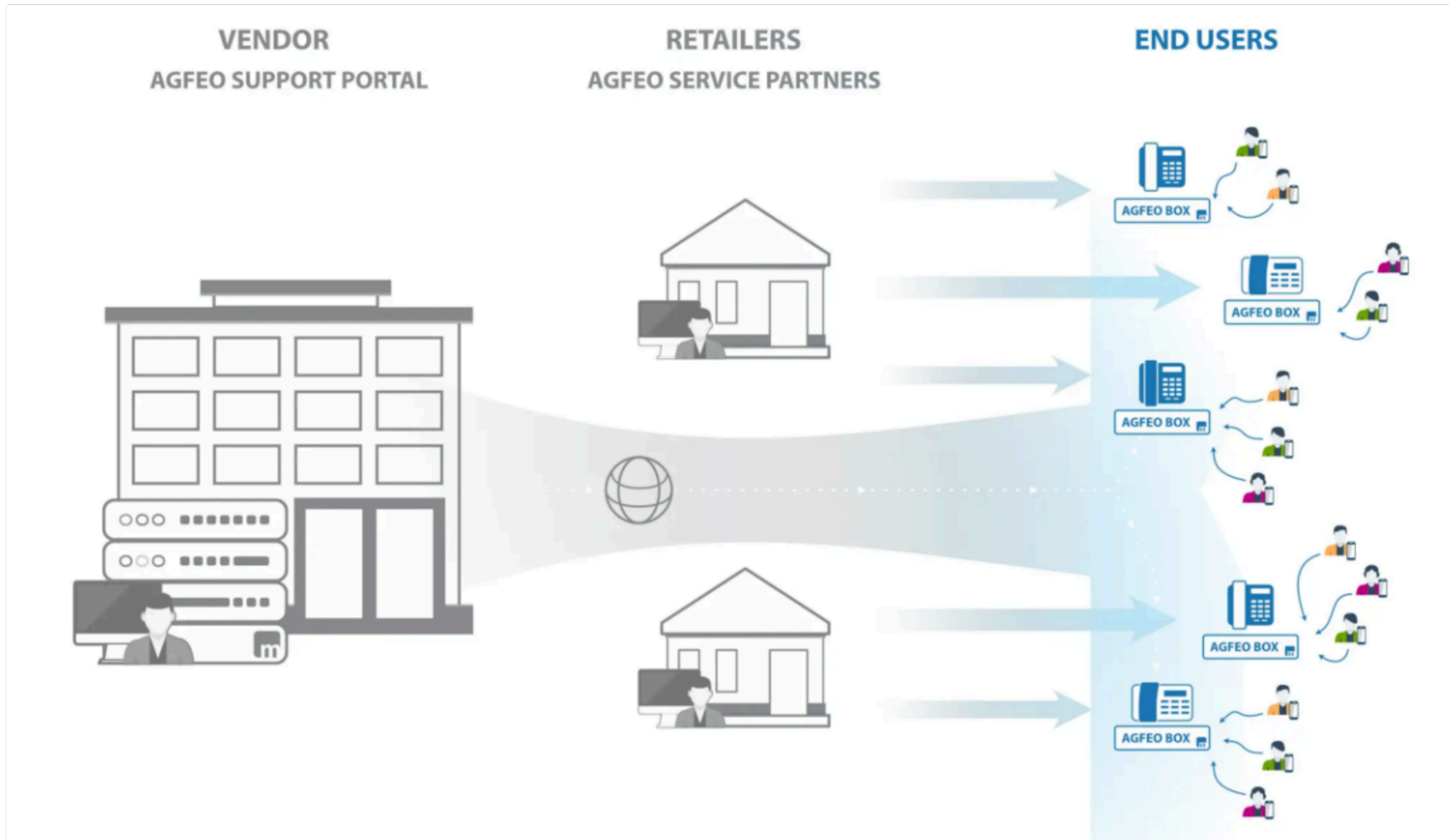
Vacation mode

Don't you hate it when your service partner is on vacation and you need them urgently?

With macchina.io REMOTE you don't have to worry about that anymore!

macchina.io REMOTE allows service partners to delegate access to trusted external partners (vacation mode), ensuring no downtime and timely service to end users.

AGFEO END USERS



- End users can securely access their own PBX devices remotely by using an app.
- A separate macchina.io REMOTE server is used exclusively for app access by end users.
- Users can connect securely with telephony systems, both internal and external.
- Custom AGFEO-specific extensions (plugins) are provided to pair the app with the customer's PBX on their phone.
- Automatic account creation is enabled, allowing users to immediately start using macchina.io REMOTE without any manual steps for account creation.



AGFEO BOX 



**AGFEO
END
USERS**

End users only need a Web browser and an account.

One of the main features of macchina.io REMOTE is that it provides a secure connection to any device behind a router or firewall, without requiring any configuration changes or port forwarding. This means that end users only need a web browser and a macchina.io REMOTE account.

Our solution makes a secure connection and creates a tunnel between the device and the server. The connection is encrypted using TLS. This guarantees that only authorized users can access the device and that data is protected from eavesdropping and unauthorized access.

User experience as easy and hassle-free as possible

macchina.io REMOTE solves this challenge by using a custom made AGFEO plugin that automates the account creation and pairing process for end users.

The plugin is installed on the macchina.io REMOTE server, which is self-hosted by AGFEO.

When an end user pairs their device app to their phone (PBX) system, the plugin automatically creates a macchina.io REMOTE account for them, and associates it with their PBX system. This way, the end user does not have to deal with any manual steps or credentials, and can start using macchina.io REMOTE right away.

Just pair your app and macchina.io REMOTE will do the rest.

We wanted to enable all AGFEO end users, whether they used their iOS or Android phone, to connect to their PBX system securely and conveniently. Our priority was that end users didn't need to worry about creating an account or setting up a complex remote access solution. Under the slogan "Just pair your app with your PBX and let us do the rest", in line with our commitment to user-friendliness, we have implemented automatic account creation for end users.

SUMMARY

macchina.io REMOTE is a smart infrastructure solution that enables secure and convenient remote access to telephony systems.

By implementing our solutions we helped AGFEO achieve better customer service, lower operating costs and higher security standards.

Service partners, end users and internal support staff can easily access and manage their IoT devices.

These are the ways we can help you further:

-  Try for Free our products!
-  Book a free online call with our experts!
-  Read more on <https://macchina.io/remote> and sign-up for our free remote access demo.