Setting up for third party services with ODOfficePro

Even though ODOfficePro is not a cloud-based system, meaning it does not live out in the internet, we still have the ability for third party services to connect to our system in order to provide value-add functionality.

There are 2 fundamental steps to accomplish, and then a simple Server configuration change, to enable this.

External Address

As with all computers, an address is required for communication.
One computer sends a message to another, and that computer responds with an answer.

Within a private network, the address of each computer is assigned to it by the router.
Inside this network, then, it is a simple matter to obtain each address.

But if the request is coming from an external source (outside of a private network) then an external address is required. Just as a router assigns addresses to each computer within a private network, an internet provider assigns an address to each router.

There are ways of obtaining a static (ie. Unchanging) address for an office's router, but that is very expensive. Fortunately there are services that manage a DYNAMIC ecternal address for a router. This works by registering a router with such a service. A convenient name is chosen, by which all external sources will refer to the specific router.

This service provides a map between the chosen name, and the current IP address of the router. The service also provides a small piece of software that gets installed on one of the office's computers. This software monitors the external address of that network's router, and updates the service when it changes. As a result, the service will always have the current external IP address.

There are multiple services available to do this. The two most common, are

- dynalias.com (https://www.oracle.com/ca-en/cloud/networking/dns/)
- no-ip.com (https://www.noip.com/)

No-ip.com has a free version. It just comes with a monthly "nag", requiring users to confirm their use of their service.

For setting up third party access to ODOfficePro, the first step will be to arrange a dynamic exrternal addresss.

Port Forwarding

As essential as it is for the third party to be able to find your network, it is also required that your network knows which computer to forward the message to.

Messages between computers are always sent on a specific "port" (which can be thought of as an apartment number which completes a mailing address). With any situation requiring external access, a specific port number is arranged between the third party service, and the host software (ie. ODOfficePro). In the case of ODOfficePro, the specific port number is 9187.

To support the third party services for which ODOfficePro provides access, the office's router must be configured to forward all messages that come in on port 9187, to the server computer.
All routers have this ability, but each manufacturer has their own look-and-feel for their router configuration software. As a result, there are no generic images that can be provided to identify the specific steps. It should be obvious, however, in each router, how to configure this, by looking for "port forwarding".

Server Configuration

The final element involved with inter-computer communication, is to ensure that the computer intended to process incoming messages, knows to listen for those messages.

In the case of ODOfficePro, this is a simple matter of going to the Server Configuration (available from the File menu of the Server program).

First, we tell the program to listen by checking the box for *Auto-start Web Server*.
This will tell the Server to always start listening, whenever the Server program starts up.

Next, go to *App Config*. This provides options as to which of the supported third party services are to be allowed to communicate.

Some third party services will also provide either an API key, or an ID and password. Clicking on the associated *Configuration* button will provide an opprtunity to enter this additional information.

Testing/Debugging

There are 2 levels of testing that can establish that everything is working (or not)...Internal, and External testing. It makes most sense to verify that eveything is working internally, before trying to test from an external location.

This testing uses a Ping routine. Ping is a long-standing concept of simply testing that something is receiving/responding to a message. There are currently 3 interfaces that use the ODOfficePro Web Server. Each responds to a Ping message, and each has it's own application name.
They are as follows:

demandHub
booking
eyeRecommend

Internal testing ensures everything inside a private network is working.
In the case of ODOfficePro, this basically ensures the server software is connected, and the Web Server is running.

This involves using any computer inside the office network.
Open a browser (Firefox tends to work better, as Chrome sometimes gets overly concerned).
In the location line at the top, enter https://192.168.X.X:9187/XXXXXXXX/Ping
Replace 192.168.X.X with the actual the IP address of the server computer.
Replace XXXXXXXX with the application name that is being tested (from the list above).

As an example:
https://192.168.2.50:9187/DemandHub/Ping

If this does not yeild a SUCCESS message, please review the Server Configuration section above. Also, go to Tools->Start Web Sever (if that option is greyed out, it means the Web Server is already running).

External testing ensures that the external exposure is correctly working. This involves the router configuration, and the external dynamic address.

This involves using a computer that is NOT on the office network.
Open a browser (Firefox tends to work better, as Chrome sometimes gets overly concerned).
In the location line at the top, enter https://yourAlias:9187/XXXXXXXX/Ping
Replace yourAlias with the external address that has been arranged for the office
Replace XXXXXXXX with the application name that is being tested (from the list above).

As an example:
https://spinnakerware.dynalias.com:9187/DemandHub/Ping

If this does not yeild a SUCCESS message, please review the External Address and Port Forwarding sections above. Also, if Internal testing was not performed, that should also be completed.

Most often, issues with external testing seem to be related to router configuration.

In each case, the response should look similar to one of the following:

```
<response>
  <header>
    <timestamp>2024-06-18-12.49.23.238000</timestamp>
    <success>true</success>
    <code>0</code>
    <message>OK</message>
  </header>
<payload> </payload>
</response>
```

OR

```
{
        "header": {
                "timestamp": "2024-09-12-10.55.45.210000",
        "success": true,
        "code": 0,
        "message": "OK"
        },
        "payload": {
        }
}
```