RDM preparations/actions for implementation
v07

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RDM

You have decided or are considering to implement Ravas Data Manager (RDM) within your company. This requires a number of things to be arranged for beforehand. This document contains an overview and is a guideline in the preparation of your site/location towards the implementation.

RDM is a web-based application that offers REST full services to interface Ravas trucks that are equipped with an electronic weighing scale and Wi-Fi communications.
The following requirements apply:

Requirements RDM

- A Linux server with root access (we add Apache, mySQL and php support)
- This server can be hosted within the IT environment of the customer or can be hosted in a datacenter (in the cloud)
- In case the server is located in the customer's own network, the server needs to be in the same ip-subnet as the Ravas trucks and possible other specific controllers.
- In case the server is in the cloud it is mandatory to have a VPN-tunnel between the server and the local IP-subnet of the customer. (The server needs to be coupled without NAT to the customer's network)
- The server needs to be able to access the Internet
- VPN or another way of remote access to this server (e.g. putty with SSH)
- a high quality Wi-Fi network with good coverage (in the surroundings where the application / trucks is to be used)
- sufficient outlets for all the equipment (for instance chargers for the batteries of the trucks)
- sufficient network (UTP) connections where applicable
- A range of IP-numbers that can be assigned to devices. For some devices this maybe done based on DHCP, for other devices we require static IP-numbers (e.g. for the Ravas trucks)
- Diverse barcodes and their specification. For instance to be able to scan a truck.
- Possibly additional equipment like printers and VPN routers.

Interfacing

Normally an interface will be needed to exchange information/data with an existing ERP or WMS system. RDM offers Restfull services that can be accessed from the ERP/WMS to obtain a weight reading from one of the Ravas trucks. Thus RDM acts as the Rest server.

The workings and details of RDM are explained in the document:
- RDM basics v17.docx (are a later version when applicable)

This document will be provided to you by Ravas.

Server hardware requirements (approximately)
- 10 GB disk space
- Minimum 4 gigabyte memory
- Preferable 64 bit processor
- Network adapter with fixed IP-address
- Internet access / SSH access / root access

Local / Virtual / In the cloud
The Linux server may be a physical machine within the local self-controlled infrastructure. It may also be a virtual machine that has been setup within the own local infrastructure. A virtual machine is from a management stand point of view often preferable, especially when the client has a Windows environment and lacks specific Linux knowledge.
Another good option is a server that is hired from a provider that operates a data-center. In this case the latency of the customer's internet connection is important. It should be low enough in order to get good response times.
If required we will discuss these options for your specific situation. Under the heading requirements some other things as VPN tunnel and remote access are already mentioned.

Linux Server installation
For the details see the document 'Installatie CentOs 7 Basis op VM tbv RDM v2.pdf' that is available on request.

URL's
To make life easier please setup an url within your DNS (Domain Name System) environment where RDM can be reached:
- rdm.<your-domain>.com

Example: rdm.ravas.nl
Optionally a second url like rdm-mobile.<your-company>.com maybe required. This will be discussed during preparations of the project.
This allows for easy access of the backend of RDM and it makes the configuration of the system easier.

Miscellaneous
- Before the implementation of RDM can start we require the forms '**Details customer network**' and '**Details Wifi network**' to be filled out and returned to us. You will find the forms below.
- Often we can do a RDM installation completely remote; in such a case the customer normally has a qualified trained IT staff that we can talk to, to solve any problems that might arise. Correct contact information and availability of personal is critical in such a case
- In case the implementation needs to be done on-site we require access to your network with our own equipment (notebook, cell). This actually speaks for itself.

- If your organization has a proxy in place, please inform us beforehand since this might complicate and slow down the installation somewhat.
- In case of on-site installation we require a work place (table or desk), preferable in the warehouse or close to the warehouse, for our notebook /monitor / keyboard / mouse to be able to work efficiently.
- Also network access over UTP or Wi-Fi is necessary and of course some power outlets.
- Things specific to you situation like keys, badges, protective clothing etc.
- For support and after-care, remote access to your system(s) is of the utmost importance. This needs to be looked at carefully. It's not a part of the implementation.
- As a final, but not less important note, an active role from the side of you, the customer, is essential for the whole process. For a successful implementation your participation is required.

Out of scope

In practice we often have to help with below mentioned matters. These are for the RDM implementation 'Out of Scope' and will be, when applicable, invoiced to you:

- Configuration of adaptation of a Virtual Machine environment like Hyper-V or VMWare that is possibly used to host the Linux server.
- Configuration of the basic Linux server installation. The installation of RDM on the server and related settings for Apache and MySQL are considered part of the implementation.
- Configuration / changes to the Wi-Fi settings of the customer network. This may be necessary in case the Wi-Fi-adapters of the Ravas trucks have problems communicating with the Wi-Fi network.
- Changes in Firewall settings or other network components (such as switches, VLAN's etc.) that cause issues in the communication with our equipment, e.g scale trucks, server and other network resources.
- VPN tunnel of remote access configuration (server and or client setup)
- Alternative server access, e.g. when SSH is not allowed and we have to use TeamViewer or other alternatives.
- Internet access of the server.
- Additional client specific requirements, e.g. SSL-certificates.
- Everything that has to do with cabling.
- Communication with other IT parties, like your own IT supplier.
- Documentation for the user.
- Backups.
- Other activities that are not logically related to RDM.

Details customer network

IT supplier	
Contact / cell phone	
ERP/WMS System	
Contact / cell phone	
Number of servers	
Most used server OS	
Network range/address (e.g. 192.168.1.x)	
Gateway	
Dns1	
Dns2	
Firewall in use / type	
Contac / cell phone for FW changes	
Type internet connection / speed	
How to reach the unix server externally? Need for a specific route (server has no dns)? Are Firewall changes needed?	
Are there other specific network or IT issues that we need to take into account? Is there an overview drawing of the IT infrastructure? (containing server names, ip's and the like)	
External Teamviewer or VPN access?	

Details Wifi network

Brand and type Access Points	
Number of Access Points	
Contact for support / cell phone	
Wifi protocol? (802.11 a / b / g / n)	
What frequency 2.4 and/or 5 GHz	
Wifi SSD name	
Wifi WPA	
Netwerk range/address (e.g. 192.168.1.x)	
Gateway	
Dns1	
Dns2	
Range for dynamic numbering (DHCP)	
We require a number of static ip numbers (for carts and printers) What range of numbers is available?	
Are there any other specific matters with the Wifi network that we have to take into account?	