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APPLICATION NOTE

FOXMAN-UN

Client - Server Setup in a Secure Network

Hitachi Energy

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Contents

1 Preface and Introduction

This FOXMAN-UN Application Note covers the installation of the FOXMAN-UN Core and Client in a secure Network to mitigate the following vulnerability:

> Communication between the client application (FOXMAN-UN User Interface) and the server application (FOXMAN-UN Core) is partially using CORBA (Common Object Request Broker Architecture) over TCP/IP for the application using UCST for FOX515 management. This protocol is not encrypted and allows to trace internal messages. An unfriendly user may read access tokens or weak encrypted passwords.

The mitigation described in this Application Note is applicable for the NEM Release R16B when using FOX515 and UCST.

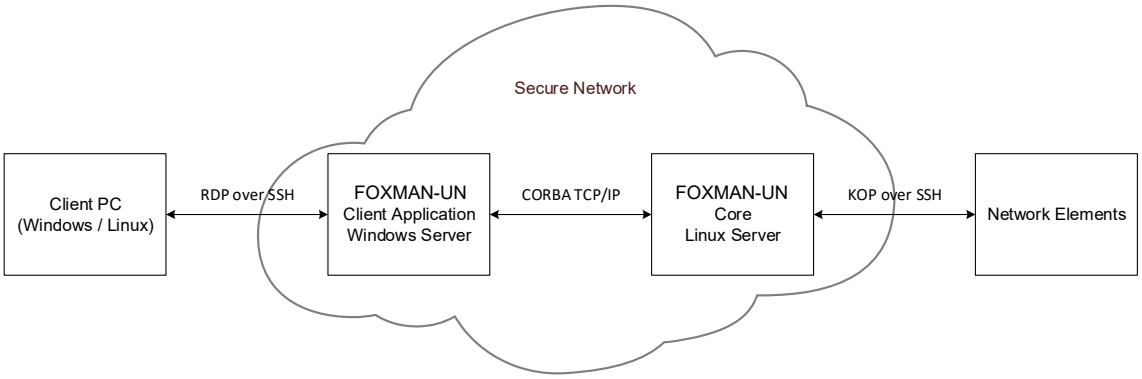
2 Mitigation

To mitigate the risk of an unauthorized access to the FOXMAN-UN Core, it is recommended to deploy the FOXMAN-UN Client application and the FOXMAN-UN Core in a secure network.

This mitigation restricts to possibility, that an unfriendly user could get access to the FOXMAN-UN Core by tracing CORBA messages and re-engineering the protocol.

The Figure below shows to basic setup for such a deployment:

- The FOXMAN-UN Client is deployed on a Windows server collocated in a secure network with the FOXMAN-UN Core Server.
- The FOXMAN-UN Client communicates with the Core server using CORBA over TCP.
- The FOXMAN-UN User accesses to the Windows server with RDP (Remote Desktop Connection) using the Remote Desktop Protocol (RDP) over SSH.
- The FOXMAN-UN Core shall use SSH to connect to the Network Elements.
- With this setup only SSH communication to the Secure Network is possible.



As an alternative the Windows server could also be a Linux Server with installed FOXMAN-UN Client only. In this case the communication between the FOXMAN-UN User and the FOXMAN-UN Client server should use SSH.

2.1 FOXMAN-UN Client on Windows Server Deployment

As the Windows server administrator (Windows Server 2022 / Windows Server 2019) install the FOXMAN-UN Client Windows package (FOXMAN-UN-UI_R16B).

The installation of the FOXMAN-UN Client on windows is described in the FOXMAN-UN under Windows Installation and Operation [1KHW002089]

For Hardening the Windows Server consult the Microsoft recommendations [4] and other available information for the respective Windows Server Release [5].

2.2 FOXMAN-UN on Linux Core Deployment

Install the FOXMAN-UN on the Linux server following the instruction described in the FOXMAN-UN installation User Manual [1KHW002426] and the Application Note FOXMAN-UN Hardening [1KHW029185].

Application Note: refer to [1KHW029185] Application Note “FOXMAN-UN R18 RHEL9 Hardened Installation - CIS Red Hat Enterprise Linux 9 Benchmark for Level 2 – Server”.

3 References

[1KHW002426] User Manual “FOXMAN-UN Installation Guideline”

[1KHW002089] User Manual “FOXMAN-UN under Windows - Installation and Operation”

[1KHW029185] Application Note “FOXMAN-UN R18 RHEL9 Hardened Installation - CIS Red Hat Enterprise Linux 9 Benchmark for Level 2 – Server”

[4] Microsoft - https://www.microsoft.com/en-us/security

[5] www.tenable.com - CIS Microsoft Windows Server 2022 Benchmark v1.0.0

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