

# SEL ICON Software Open Port Requirements

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## INTRODUCTION

The SEL ICON® Integrated Communications Optical Network works with SEL-5051 Client and SEL-5052 Server Network Management System (NMS) Software using various protocols to securely manage settings, communicate, and access the ICON network.

This application note provides information to assist in configuring firewall rules to establish NMS communication for an ICON system.

## NETWORK ADMINISTRATION REQUIREMENTS

Designated SEL-5051 and SEL-5052 administrators require membership in the administrator group on the Microsoft Windows host where the software is installed. They should also have the permissions necessary to troubleshoot issues on the Ethernet network that hosts the ICON NMS components. SEL-5051 and SEL-5052 administrators also require, at a minimum, access to the icon user account or another administrator security role account.

Network administrators should determine which local port is desired for the protocols outlined in Table 1. SEL-5051 and SEL-5052 support user-configurable ports for most protocols except SNMP. The first two rows in Table 1 outline the minimum requirements for users deploying a basic SEL-5051 standalone implementation.

## PORT REQUIREMENTS

Figure 1 is a diagram of a network firewall in place between SEL-5051 and the ICON network entry point (server module discovery IP address). In this example, ports may need to be opened in both the network firewall and the host-based firewall for the computer running SEL-5051. Ports are automatically opened during the SEL-5051 installation process *only* when Microsoft Windows Defender is used as the host-based firewall.

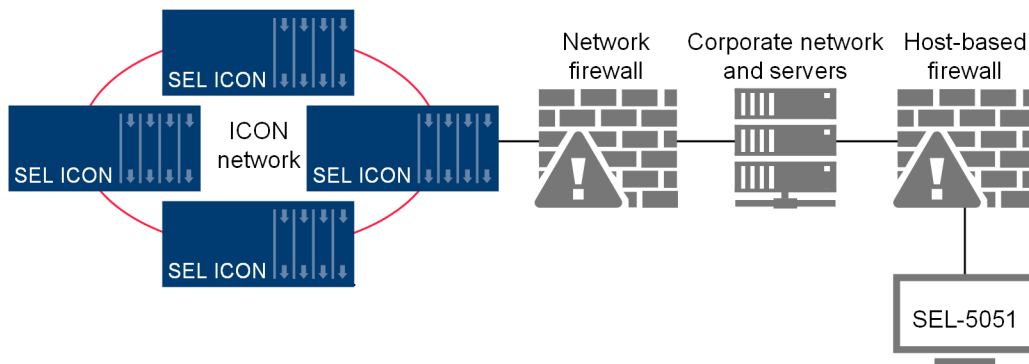


Figure 1 ICON network and SEL-5051 NMS diagram.

Table 1 SEL ICON Port Requirements

Application	Transport Layer Protocol	Default Port	Configurable	Protocol Type	From ↓ To
All SEL-5051 users	TCP	Random <sup>1</sup>	Yes	TCP file transfer for firmware upgrade	ICON ↓ SEL-5051
	UDP	161	No	SNMP, USB to SNMP proxy	SEL-5051 ↓ ICON
All SEL-5052 users	UDP	161	No	SNMP	SEL-5052, CDS ↓ ICON
	TCP	5436	Yes	Postgres client-server communication	ICON, SEL-5051, Standby CDS ↓ SEL-5052, CDS
	TCP	5437	Yes	Web (HTTPS), REST (HTTPS), SignalR (HTTPS or WebSocket)	ICON, Internet browser, SEL-5051, Standby SEL-5052 ↓ SEL-5052, CDS
LDAP users (optional)	TCP	Configured	Yes	LDAPv3	SEL-5052, CDS ↓ LDAP server
SSO users (optional)	TCP	Configured	Yes	HTTPS	Internet browser, SEL-5052, CDS ↓ SSO server
Email alarm and event notifications (optional)	TCP	587	Yes	SMTP	SEL-5052, CDS ↓ SMTP server
Third-party SNMP manager (optional)	UDP	161	No	SNMP	Third-party SNMP manager ↓ ICON
	UDP	162	No	SNMP trap	ICON ↓ SNMP trap sink
Syslog server (optional)	UDP	514	Yes	Syslog	ICON, SEL-5052, CDS ↓ Syslog server

<sup>1</sup> TCP file transfer is random by default but should be set to a specific port for the firewall in the SEL-5051 preferences by a user with an administrator role.

## **FOR MORE INFORMATION**

This application note provides a summary of the port requirements to assist in configuring firewall rules to establish NMS communication for an ICON system. A detailed description and diagrams outlining NMS protocols and applications are available in the NMS Network Component Interconnectivity section of the SEL ICON Instruction Manual.

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