



## OVERVIEW

ARENA NX is a web-based building monitoring and management solution build upon the powerful Niagara 4 platform. It is capable of integrating CentralLine BACnet and Niagara controllers, third party devices and internet protocols into a centralized software platform that is designed to manage buildings at an enterprise level. It is used to supervise HVAC systems and non-HVAC systems (e.g. lighting, security, life safety) in a building or across multiple buildings.

ARENA NX serves real-time graphical information to standard web browser clients and also provides server-level functions such as: centralized data logging, archiving, alarming, real-time graphical displays, master scheduling, system-wide database management, and integration with enterprise software applications.

ARENA NX helps to maximize operating and services opportunities and to minimize associated costs.

## ENGINEERING

The comprehensive graphical engineering tool set (COACH NX) is embedded in the ARENA NX. COACH NX is the single engineering tool for EAGLEHAWK, HAWK and ARENA NX.

## FEATURES

- **WEB ACCESS**  
Access to alarms, graphics, schedules, logs and configuration data with a web browser and mobile devices
- **REAL-TIME GRAPHICAL DISPLAY**  
Free configurable HTML5 user interface. Supported by libraries and template functions for an efficient user interface engineering
- **ALARMING**  
Sophisticated alarm segregation, processing, escalation and routing, including e-mail alarm acknowledging
- **CONNECTIVITY**  
BACnet driver with server and client support.
- **C-Bus, Modbus IP, LON IP, MBUS, KNX IP, OPC and SNMP drivers supported by open point license**
- **SCHEDULING**  
Read / write access to BACnet, C-Bus and Niagara schedules. Global schedule and calendar functions "Scheduling" on Supervisor support to manage device without internal schedule function
- **CENTRALIZED DATA LOGGING**  
All points can be added to a history database. Interval and Change Of Value (COV) algorithms are supported. History data can be visualized in easy and intuitive way.
- **ENERGYMANAGEMENT**  
Basic energy management functions are included, enhanced features can be added. CentralLine EnergyVision is an extension module to the supervisor.
- **AUDIT**  
"Audit Trail" of database changes, database storage and backup, global time functions, calendar, central scheduling, control and energy management routines
- **NAVIGATION**  
Navigation can easily be adjusted to end-user permissions and needs
- **SCRIPTING / LOGIC**  
Freely programmed scripts and logic can be used to implement control and management functions on supervisor level. Batch functions can be executed to force actions or adjust settings across the system.
- **PLANT CONTROLLER Support**  
Supports multiple HAWK / EAGLEHAWK and EAGLE controllers connected to a local Ethernet network, or the Internet. CARE project integration utility for efficient Supervisor setup of CentralLine BACnet systems. Virtual BACnet point property support for competitive BACnet system pricing. Remote back up of HAWK applications to Supervisor.
- **CONFIGURABLE ROOM CONTROLLER Support**  
Supports template for efficient configuration of MERLIN applications. BACnet parameter have not to be considered as license points.
- **META DATA support (Tagging)**  
Additional information can be added to all integrated objects. This information can be used to structure data, search data and prepare data for further analytics.
- **DOCUMENTATION**  
Full Supervisor documentation on "one click".
- **DASHBOARDING**  
Data summary views customizable by end-users
- **SEARCH**  
Find data quickly, by using the clear text search function.
- **SECURITY**  
Password protection and security using authentication and encryption techniques with optional security supported via an external LDAP connection
- **USERS**  
Supports an unlimited number of users via Internet /

Intranet access with a standard web browser depending on the host PC / Server resources

- **ARCHIVING**  
Optional enterprise-level data archival using SQL and MySQL database, and XML, CSV or text formats
- **Reporting**  
Define reports which can be manually or automatically created as .PDF or .CSV file and attached to email.

## COMPATIBILITY

In any given Niagara system architecture, the Niagara Supervisor must be running in the highest version of any Niagara instance.

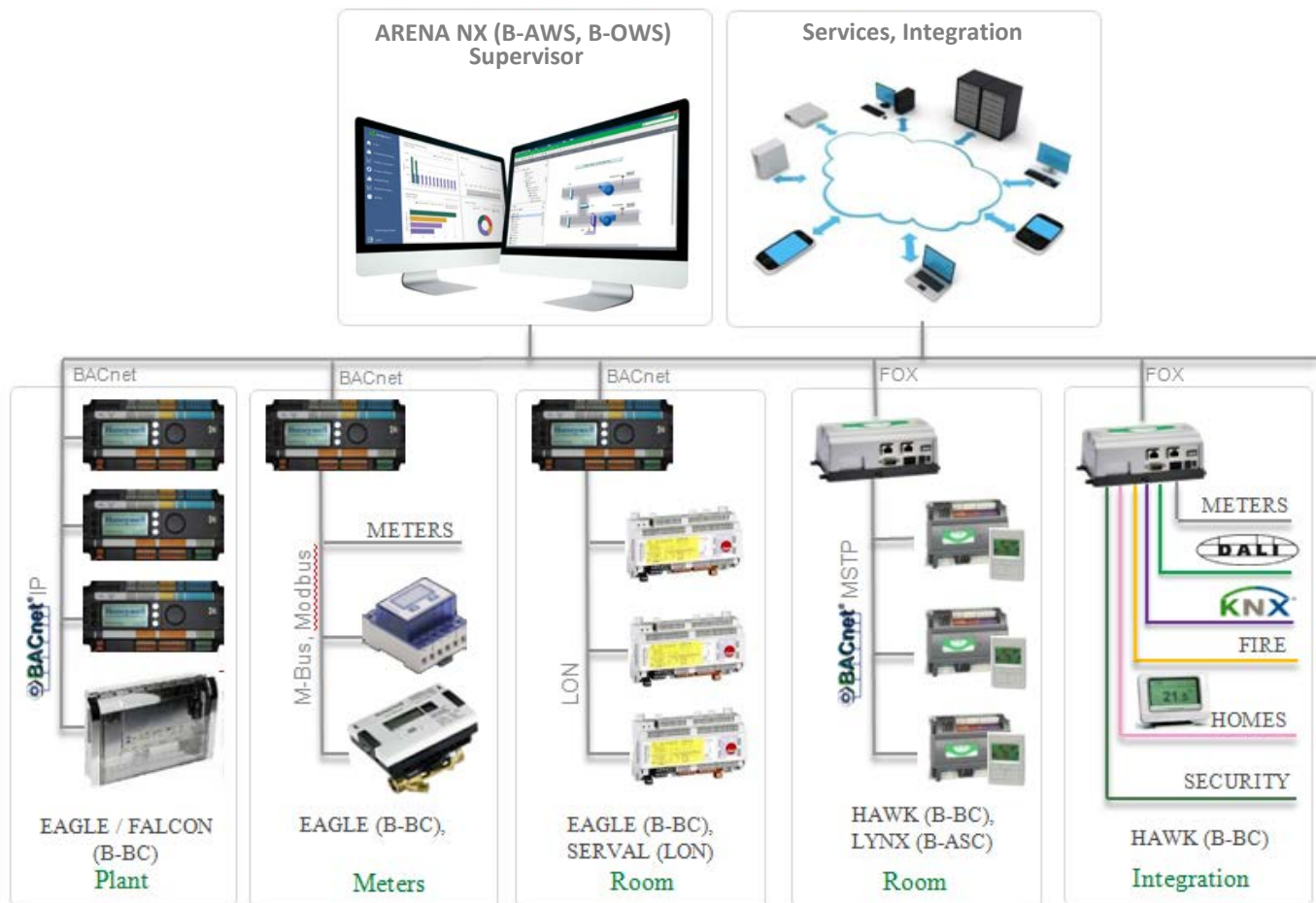
When connecting to HAWKs that are running older versions of Niagara, the following compatibility guidelines apply:

- Niagara AX: Niagara 4 Supervisors can connect to HAWKs running Niagara AX versions 3.6u4, 3.7u1, 3.8R and higher.
- R2: Niagara AX and Niagara 4 Supervisors can connect to HAWKs running R2 through the oBIX XML interface only. oBIX is included in all Niagara AX and Niagara 4 Supervisors as a means of integrating Niagara-based Release 2 (R2) JACEs. With Niagara Release 2.3.522 or higher, the oBIX driver can be added to expose all data points, schedules, trends and alarms to a Niagara AX or Niagara 4 system. This oBIX driver is both, a client and a server.

## PLATFORM REQUIREMENTS

<b>Processor</b>	Intel Pentium™ IV, 2 GHz or higher, Core 2 Duo also acceptable
<b>Operating System</b>	Windows 10, 64-bit Windows 8.1 Enterprise, 2012 R2 Standard <ul style="list-style-type: none"> <li>• VMware - ESXi 5.1.0</li> <li>• Microsoft Virtual Server 2008</li> </ul>
<b>Memory</b>	1 GB minimum 4 GB recommended for large systems, 8 GB or more recommended for Win 64-bit version
<b>Hard Drive</b>	1 GB minimum 4 GB for applications that need more archiving capacity
<b>Display</b>	Video card and monitor capable of displaying 1024 x 768 pixel resolution or greater
<b>Network Support</b>	Ethernet adapter (10/100 Mb with RJ-45 connector)
<b>Connectivity</b>	Full time high speed ISP connection recommended for remote site access (e.g. T1, ADSL, cable modem)

## SYSTEM ARCHITECTURE



## WHAT TO ORDER?

### ARENA NX Part Numbers with Open Point Licenses

Open points include all the point types including BACnet IP, LON, KNX-IP, M-bus, Modbus TCP, oBiX, SNMP, and C-Bus.

The ARENA point licenses support any open system drivers including C-Bus. The respective drivers will be installed by the ARENA NX setup. Use these licenses if your project contains EAGLE or FALCON controllers.

All the basic licenses contain an initial maintenance license of 18 month.

Part Number	License Key	Description
CLNX-S-500P	CLNX-S-500P	Supervisor 500 points
CLNX-S-2500P	CLNX-S-2500P	Supervisor 2500 points
CLNX-S-5000P	CLNX-S-5000P	Supervisor 5000 points
CLNX-S-10000P	CLNX-S-10000P	Supervisor 10000 points
CLNX-S-50000P	CLNX-S-50000P	Supervisor 50000 points

### ARENA NX Part Numbers based on NIAGARA Nodes

The basic ARENA NX node licenses support any NIAGARA nodes like HAWK, or EAGLEHAWK.

Part Number	License key	Description
CLNX-S-5N	CLNX-S-5N	Supervisor - 5 HAWK / EAGLHAWK
CLNX-S-10N	CLNX-S-10N	Supervisor – 10 HAWK / EAGLHAWK
CLNX-S-100N	CLNX-S-100N	Supervisor - 100 HAWK / EAGLHAWK

NOTE: Licenses of FOX nodes are indicated by the suffix "N" in the part number

### ARENA NX Upgrade Licenses

The basic point and node licenses can be upgraded by any of the following point or node upgrades. The upgrades do not influence the maintenance extension licenses which always depend on the basic license.

Part Number	License key	Description
CLNX-S-500P-UP	SUP-DEVICE-10	Add driver capacity 500 points
CLNX-S-2500P-UP	SUP-DEVICE-50	Add driver capacity 2500 points
CLNX-S-5000P-UP	SUP-DEVICE-100	Add driver capacity 5000 points
CLNX-S-10000P-UP	SUP-DEVICE-200	Add driver capacity 10000 points
CLNX-S-50000P-UP	SUP-DEVICE-1000	Add driver capacity 50000 points
CLNX-S-1N-UP	SUP-UP-1	Add 1 HAWK / EAGLEHAWK
CLNX-S-10N-UP	10 x SUP-UP-1	Add 10 HAWK / EAGLEHAWK
CLNX-S-100N-UP	SUP-UP-100	Upgrade to 100 HAWK / EAGLEHAWK

### ARENA NX Upgrades.

This chapter describes the available Supervisor options for upgrading ARENA NX licenses.

Please note that in the part numbers list:

models based on CLNX-S-5N and CLNX-S-10N are all referred to as Small Building Supervisors.

- Small building supervisors can be upgraded by additional NIAGARA nodes CLNX-S-1N-UP (SUP-UP-1), CLNX-S-10N-UP (10 x SUP-UP-1), and CLNX-S-100N-UP (SUP-UP-100) upgrades.
- If CLNX-S-100N-UP (SUP-UP-100) is used, then the model switches to a CLNX-S-100N (SUP-100) based model, and any options are retained.

Model	CLNX-S-1N-UP (SUP-UP-1)	CLNX-S-100N-UP (SUP-UP-100)	Comment
CLNX-S-XXXXP	Yes	To be discussed	Do you want upgrade to 100N?
CLNX-S-5N	Yes	Yes	SUP-UP-100 switches to CLNX-S-100N
CLNX-S-10N	Yes	Yes	SUP-UP-100 switches to CLNX-S-100N
CLNX-S-100N	Yes	Not possible	

Example:

There is an initial purchase of:  
 CLNX-S-5N + SUP-DEVICE-10  
 Now have a supervisor with 5 HAWK and 500 open points, 18 month SMA.

Later, buy upgrades:  
 2 x CLNX-S-1N-UP (SUP-UP-1), no further SMA purchase at this point.  
 Now have a supervisor with 7 HAWK and 500 open points, 18 month SMA.

Later, buy SMA for 1 year:  
 CLNX-1N-SMA-1Y (SUP-1-SMA-1YR)  
 Now have a supervisor with 7 HAWK and 500 open points, 30 month SMA from initial purchase date.

Later, buy upgrade:  
 CLNX-S-100N-UP (SUP-UP-100)  
 Now have a supervisor with 107 HAWK and 500 open points, 30 month SMA from initial purchase date.  
 Model has switched from CLNX-S-5N to CLNX-S-100N, options retained for added 2 HAWK and 500 points.

Later, buy SMA for 1 year:  
 CLNX-100N-SMA-1Y (SUP-100-SMA-1YR)  
 Now have s supervisor with 107 HAWK and 500 open points, 42 month SMA from initial purchase date.

## ARENA NX Maintenance Licenses

To benefit from further maintenance and upgrade features after the initial maintenance license of the basic point/node license is expired, you can purchase one of the following maintenance extensions shown in the next tables.

If you do not purchase a maintenance extension, the supervisor will continue to run but you will not be able to update your software with maintenance releases.

This means that the maintenance extensions are cumulative and always start at the point in time, where the previous maintenance extension ends. If you purchase further maintenance extensions after you have a gap in your maintenance period, the maintenance extension will fill these gaps.

Example:

Your initial maintenance is expired since 3 years. Now you buy a maintenance extension of 5 years. Your 3 years gap is filled and you benefit another 2 years of maintenance updates. If you immediately add another maintenance extension of 1 year, you will benefit of another 3 years of maintenance updates.

## ARENA NX Maintenance Licenses for Point Licenses

To benefit from further maintenance and upgrade features after the initial maintenance license of the basic point license is expired, you can purchase one of the following maintenance extensions. The maintenance licenses are always linked to the initially purchased basic version (Order numbers ending with \*P.)

Part Number	License Key	Description
CLNX-P-SMA-1Y	SUP-0-SMA-1YR	SUP-P maintenance 1 year extension
CLNX-P-SMA-3Y	SUP-0-SMA-3YR	SUP-P maintenance 3 year extension
CLNX-P-SMA-5Y	SUP-0-SMA-5YR	SUP-P maintenance 5 year extension

## ARENA NX Maintenance Licenses for Node Licenses

To benefit from further maintenance and upgrade features after the initial maintenance license of the basic node license is expired, you can purchase one of the following maintenance extensions shown in the next table.

Part Number	License Key	Description
CLNX-1N-SMA-1Y	SUP-1-SMA-1YR	SUP-1N maintenance 1 year extension
CLNX-1N-SMA-3Y	SUP-1-SMA-3YR	SUP-1N maintenance 3 year extension
CLNX-1N-SMA-5Y	SUP-1-SMA-4YR	SUP-1N maintenance 5 year extension
CLNX-10N-SMA-1Y	SUP-10-SMA-1YR	SUP-10N maintenance 1 year extension
CLNX-10N-SMA-3Y	SUP-10-SMA-3YR	SUP-10N maintenance 3 year extension
CLNX-10N-SMA-5Y	SUP-10-SMA-4YR	SUP-10N maintenance 5 year extension
CLNX-100N-SMA-1Y	SUP-100-SMA-1YR	SUP-100N maintenance 1 year extension
CLNX-100N-SMA-3Y	SUP-100-SMA-3YR	SUP-100N maintenance 3 year extension
CLNX-100N-SMA-5Y	SUP-100-SMA-4YR	SUP-100N maintenance 5 year extension

NOTES: The maintenance licenses are always linked to the initial basic node versions indicated by the "N" in the part number.  
 Any license upgraded to 100 Nodes needs the (SUP-100N) maintenance extension.  
 Any license upgraded to an unlimited number of nodes needs the UNL maintenance extension

## Optional ARENA NX Database Drivers for External Database Applications

Part Number	License Key	Description
CLNX-DR-S-MYSQL	DR-S-DB-MYSQL	Driver for MYSQL database
CLNX-DR-S-SQL	DR-S-DB-SQL	Driver for SQL database
CLNX-DR-S-CSV	DR-S-DB-CSV	Driver for CSV database

## COACH NX Engineering Licenses

CLAXENG is the license to enable the COACH NX engineering software. The engineering license is required once per "workstation".

Prerequisite for a running engineering license is that each company has bought the system integrator license (CLNXCOACHSI), and renews this license every year before March, 31.

All the present engineering licenses will be renewed by ordering the yearly license fee CLNXCOACHSI.

This means: Every company needs:

- 1x CLNXCOACHSI (per company and year)
- 1x CLNXENG for every new workstation (one-time payment, renewal covered by CLNXCOACHSI)

Part number	License Key	Description
CLNXCOACHSI-STK	SUP1YS + 5 x SUP-DEMO	Starter kit COACH NX with 5 workplace licenses
CLNXCOACHSI	SUP1YS	CLNX engineering tool annual license fee
CLNXENG	SUP-DEMO	CLNX engineering tool workplace license

## APPENDIX 2 AX Upgrade to NX

You can order maintenance licenses for one, three or five years. Please refer to the License Agreement. To upgrade CLAXARENASBS01 to NX you need one of the following maintenance licenses.

### ARENA AX Upgrade to NX

Upgrading an ARENA AX to NX always keeps the original AX license model.

AX SKU	NX Upgrade SKU	License Key	Description
CLAXARENA	CLNX-UNL-SMA-xY	SUP-UNL-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENAAPC	CLNX-P-SMA-xY	SUP-0-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENARUP	CLNX-UNL-SMA-xY	SUP-UNL-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENASBS01	CLNX-1N-SMA-xY	SUP-1-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENASBS05	CLNX-10N-SMA-xY	SUP-10-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENASBS10	CLNX-10N-SMA-xY	SUP-10-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENASBSU1	CLNX-1N-SMA-xY	SUP-1-SMA-xYR	Maintenance x (x = 1;3;5) year extension
CLAXARENASBSU5	CLNX-10N-SMA-xY	SUP-10-SMA-xYR	Maintenance x (x = 1;3;5) year extension

## License Models for Upgraded ARENA AX to NX and ARENA NX

### Upgrade ARENA AX to ARENA NX (N4)

To upgrade an ARENA AX to the latest NX build you have to order a maintenance license package (CLNX...) as described in the chapter "ARENA AX Upgrade to NX", p. 5. The existing license limitations remain the same. Additional drivers or driver extensions can still be added by using the existing AX ordering codes CLAX..

See columns 1 and 4 in the table below.

## Order a New ARENA NX

If you order a new ARENA NX, please order basic node versions and node or point upgrades as described in the chapters “ARENA NX Part Numbers based on NIAGARA Nodes”, p. 3 and “ARENA NX Upgrade Licenses”, p. 3. As you can see in the table below columns 2 and 5, the most drivers are already included as open point licenses.

The following table shows which drivers are included, available for purchase or not supported yet in the NX licensing model.

CL AX Supervisor Part Number	CL NX Supervisor Part Number	Description	Niagara AX Supervisor	Niagara 4 Supervisor
<b>Supervisor drivers and options:</b>				
#N/A	#N/A	BACnet® IP Server Driver for the Niagara Supervisor; does not include client functions	Available for purchase	Included
CLAXARENAAPC	#N/A	ARENA alarm portal client	Available for purchase	Use alarm console
CLAXARENASMS	#N/A	ARENA driver SMS	Available for purchase	Not supported yet; supported by HAWK8000
CLAXDBCSV	CLNXDBCSV	Excel® and CSV file data import into Niagara AX	Available for purchase	Available for purchase
CLAXDBDB2	#N/A	ARENA driver DB2 database	Available for purchase	Not supported yet
CLAXDBMYSQL	CLNXDBMYSQL	ARENA driver MYSQL database	Available for purchase	Available for purchase
CLAXDBORCL	#N/A	ARENA driver Oracle database	Available for purchase	not supported yet
CLAXDBSQL	CLNXDBSQL	ARENA driver MS-SQL database	Available for purchase	Available for purchase
CLAXDRBACAWS	#N/A	ARENA driver MYSQL database	Available for purchase	Included
CLAXDRBACEXP	#N/A	ARENA driver BACNETIP export upgrade	Available for purchase	Included
CLAXDRBACOWS	#N/A	ARENA driver BACNETIP OWS 500 points	Available for purchase	Included
CLAXDRCBUS, CLAXDRCBUS500	#N/A	AX C-BUS driver unlimited points	available for purchase	Included
CLAXDREIB, CLAXDREIB500	#N/A	ARENA driver EIB/KNX 500 points	Available for purchase	Included
CLAXDRLONIP, CLAXDRLONIP500	#N/A	ARENA driver LONIP +500 points	available for purchase	Included
CLAXDRMBSIP, CLAXDRMBSIP500	#N/A	ARENA driver MBUSIP 500 points	Available for purchase	Included
CLAXDRMTCP, CLAXDRMTCP500	#N/A	ARENA driver MODBUSTCP(M) 500 points	Available for purchase	Included
CLAXDROBX, CLAXDROBX500	#N/A	ARENA driver OBIX 500 points	Available for purchase	Included
CLAXDROPC, CLAXDROPC500	#N/A	ARENA driver OPC-DA 500 points	Available for purchase	Included
CLAXDRSNMP, CLAXDRSNMP500	#N/A	ARENA driver SNMP 500 points	Available for purchase	Included
#N/A	#N/A	Add BACnet® IP Client functions to a BACnet® IP Server Driver	Available for purchase	Included
#N/A	#N/A	Niagara AX Supervisor Modbus® TCP Driver	Available for purchase	Included
CLAXARENAAPC, CLAXARENAAXI, CLAXARENAAXI4, CLAXARENADED, CLAXARENADED4, CLAXARENAMIL, CLAXARENAMIL4, CLAXDRAXI, CLAXDRDED, CLAXDRMIL	#N/A	Camera drivers	Available for purchase	not supported yet

CL AX Supervisor Part Number	CL NX Supervisor Part Number	Description	Niagara AX Supervisor	Niagara 4 Supervisor
<b>Supervisor drivers and options:</b>				
CLAXDRACX	#N/A	HAWK driver Andover AC256	Available for purchase	not supported yet
CLAXDRBPORT	#N/A	HAWK driver CBUS BPORT	Available for purchase	will not be supported
CLAXDROPE, CLAXDROPE500	#N/A	ARENA driver OPC-AE 500 points	Available for purchase	not supported yet
CLAXDROPE, CLAXDROPE500	#N/A	ARENA driver OPC-AE 500 points	Available for purchase	not supported yet

## EAGLEHAWK 3.8

EAGLEHAWK cannot be upgraded to N4 yet but it can be visualized with any of the AX or NX Supervisors.

## HAWK NX Maintenance Licenses to Upgrade HAWK 3.8 Controllers to NX

Any NIAGARA NX supervisor can connect AX controllers without any maintenance extension.  
To upgrade HAWK3 or HAWK6 controllers, these controllers need the following maintenance licenses:

AX SKU	NX Upgrade SKU	License Key	Description
CLAXHAWK320E	CLNX-SMA-3E-xY	SMA-3E-xYR	HAWK3E x (x = 1,3,5) year maintenance
CLAXHAWK330E	CLNX-SMA-3E-xY	SMA-3E-xYR	HAWK3E x (x = 1;3;5) year maintenance
CLAXHAWK340E	CLNX-SMA-3E-xY	SMA-3E-xYR	HAWK3E x (x = 1;3;5) year maintenance
CLAXHAWK350E	CLNX-SMA-3E-xY	SMA-3E-xYR	HAWK3E x (x = 1;3;5) year maintenance
CLAXSERIES600	CLNX-SMA-6E-xY	SMA-6E-xYR	HAWK6E x (x = 1;3;5) year maintenance
CLAXHAWK630E	CLNX-SMA-6E-xY	SMA-6E-xYR	HAWK6E x (x = 1;3;5) year maintenance
CLAXHAWK640E	CLNX-SMA-6E-xY	SMA-6E-xYR	HAWK6E x (x = 1;3;5) year maintenance
CLAXHAWK650E	CLNX-SMA-6E-xY	SMA-6E-xYR	HAWK6E x (x = 1;3;5) year maintenance
CLAXHAWK660E	CLNX-SMA-6E-xY	SMA-6E-xYR	HAWK6E x (x = 1;3;5) year maintenance

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