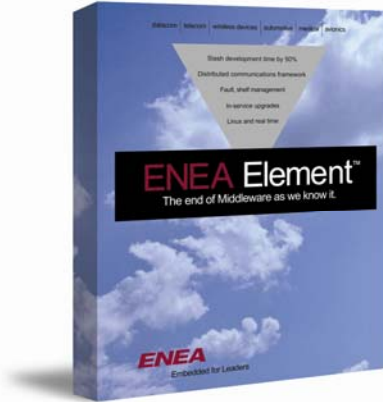


Enea® Element 3.0

Frequently Asked Questions



Do you have any customers for Element today?

Today we have over 10 customers that are actively developing platforms or have been using Element in their platform development. In this context we are particularly proud to mention that we already have a customer who is using Element in their second project which we see as strong validation of the value Element and Enea is providing.

All the official customers for Enea® Element are published on www.enea.com.

Does Element support ATCA?

ATCA is one of the main targets for Element as well as other COTS (Commercial off-the-shelf) platforms like IBM Blade Center. We have a strong focus to support these COTS platforms since we see middleware and operating systems as critical parts of any high availability system. SA Forum and other industry bodies are doing a great job in defining the software specifications for carrier grade equipment and by this opening up for the use of COTS software on top of ATCA and other COTS Platforms.

We are also working close with leading ATCA technology providers like Kontron and Radisys whose technology we are officially supporting with our middleware products Enea Element and Enea dSPEED Platform.

Is Element available as source code?

Element is packaged and delivered as a source code product.

Is LINX mandatory for Element?

Yes. Virtually all Element services directly depend on the LINX messaging system, both from a functional point of view and from an API point of view.

What is ENEA's position on standards?

ENEA is an industry leader in standards that are directly related to middleware software for network equipment. ENEA strongly supports the value that standards provide including portability, interoperability, technology acceleration, reuse, and most importantly faster time to market at reduced cost and risk.

What are the relevant standards for Element?

While there are over 50 communications and telecom standards that are active in the industry, there are 3 standards bodies that have the most significant influence on Element:

1. SCOPE Alliance (SCOPE),
2. Service Availability Forum (SA Forum or SAF), and
3. Communications Platform Trade Alliance (CP-TA).

SCOPE represents 100% of the Tier 1 NEPs and has taken on the charter to define profiles, gap analysis, and priorities for the carrier grade platform eco-system. ENEA's Chief Software Standards Officer is currently Co-Chair of the Middleware Work Group. SCOPE defined the high level architecture view for the carrier grade platform that has become the "standard view" for the building block eco-system. It includes many of the middleware building blocks that Element provides. The output of SCOPE represents common requirements for NEPs, other standards organizations, and implementers.

The SA Forum is the single provider of interface standards for high availability middleware. The prestigious membership is comprised of the brightest minds in high availability middleware from both consumers and providers of HA Middleware. ENEA's Chief Software Standards Officer is currently the Member Relations Officer and has a rich history of technology and strategy leadership dating back to the founding of the forum. The SA Forum Application Interface Specifications and Frameworks along with the Hardware Platform Interface specifications are destined to become the ubiquitous HA Middleware Standards.

CP-TA plays an important role in the realization of interoperability between the carrier grade platform building blocks defined in the SCOPE high level architecture view. ENEA is a key contributor and is championing interoperability issues for platform management. CP-TA creates and publishes Interoperability Compliance Documents (ICD) and Test Procedure Manuals (TPM) that specifically address the interoperability of carrier grade platform building blocks.

Does Element conform to the SCOPE Alliance Profiles?

While no formal compliance criteria are defined for the published SCOPE documents, Element is highly aligned with the architecture view created by SCOPE. ENEA considers the published profiles and gap analysis documents as customer requirements that influence the Element roadmap and implementation. ENEA's deep engagement in the technical work groups ensures that Element and SCOPE are well aligned.

Is Element SA Forum Compliant?

No formal Application Interface Specification (AIS) compliance test is recognized by the SA Forum so compliance can not be claimed by any offering. Conformance to the AIS specifications is the highest claim that can be made. The Hardware Platform Interface (HPI) compliance tests for HPI implementations does not apply to Element as Element is a consumer of HPI versus an implementation of HPI. However, Element conforms to the Availability Management Framework specification which is the most substantial and mature specification. While the appropriate Element services are highly aligned with all the SA Forum AIS specifications, the specific APIs are supported as they become stable and mature. This ensures minimal churn for ENEA's customers. The Element roadmap maps tightly with the SA Forum roadmap.

Does Element use the CP-TA test definitions?

CP-TA has done a tremendous job of defining the interoperability criteria and tests for many AdvancedTCA and related technologies. To date, these criteria do not cover any Element functionality or capabilities. However, as CP-TA continues to build momentum and expands to address system management interoperability, Element will likely be the first to test. ENEA is working to lead the CP-TA into this new area of interoperability testing and realization.

Is Enea a member of OpenSAF Foundation?

The Open Service Availability Framework is not a standards organization. OpenSAF is an open source project that strives to implement the SA Forum specifications. OpenSAF is a project and not a product. It could take several years and substantial investments to productize the project code. However, ENEA recognizes the value of open source as illustrated by ENEA's open sourcing of LINX the leading open source Inter Process Communications (IPC) service. Therefore, ENEA is taking a close look at this new and evolving foundation and project code to better understand how ENEA can play a constructive role. The current Element product is mature and deployable in carrier grade solutions today, and sets the bar high for all SA Forum related offerings and stands as a quality and maturity model for OpenSAF.

Can you present performance characteristics for Element?

There are various benchmarks for the different versions of Element. They are not public but we are happy to present them in a dialog with a customer. Benchmarks for Element 3.0 on selected reference hardware will be available close to the actual release date.

Is it possible to use only a subset of services out of Element?

Yes. If we look at Element from the standpoint of it's major service groups, which are a) Core Services, b) Chassis Management, c) Software Management, d) High Availability Framework (HAF), and e) Embedded Management (meaning ConfD from Tail-f), then we have the following dependencies:

- Embedded Management -> depends on Core Services
- Software Management -> depends on HAF and Core Services

- HAF -> slight dependency on SW Management, and Core Services
Note: HAF needs very little of SW Management so the dependency is not strong
- Chassis Management -> depends on Core Services
- Core Services may run stand-alone

How can I integrate Element into my product?

If you are planning to use Element as the foundation for new product development you will get a head-start by the “1-day-to Application development” experience that is provided via the intuitive product installation. Enea has a comprehensive field support team that will be happy to assist you as needed.

If you are planning to integrate Element into an existing platform, we recommend you contact Enea’s Professional Services organization. They offer a team of highly skilled industry experts who can assist in analyzing your current system. Based on this analysis, they will suggest a tailored way forward to make the best use of Element and align those benefits with your particular business considerations.

Finally – Enea offers training on High-Availability principals in general, and Element in particular, to bring customers up to speed quickly. After this training, the experience is that the participants are well equipped to implement Element-based High-Availability applications on their own.

Sounds interesting, how can I evaluate Element?

Please contact your closest Enea office and you will get in contact with a sales representative that will assist you. You find the contact information to all Enea’s offices on www.enea.com.

For more detailed information on Enea® Element 3.0 and other Enea Products, please go to Enea’s web site www.enea.com.