

## Case Study



BASED in Germany, but with a client base stretching throughout Europe, incowia are a leading provider of IT consultancy services across a diverse range of sectors. As specialists in helping their customers optimize their IT systems and processes, incowia put considerable emphasis on ensuring that both the software they develop and the software used by their clients is optimised to function to its full potential.

As such, ensuring that the architecture of the software they develop and work with is logical and understandable is a point of emphasis for incowia. As incowia's Managing Director Dr Ingo Schrewe points out: "We have up to 30 developers at incowia, and of those eight are specialist software architects. We understand the importance of building software from a solid base and take software architecture very seriously as a means of meeting our objectives."

Whilst carrying out an architecture review for a customer, Dr Schrewe came across Lattix while searching for architecture tools on-line and realised that the specialist architecture solution could benefit incowia's operations. "We were looking for a tool that would help us analyse how a large and complex software package one of our clients was using had been put together, architecturally," Dr Schrewe said. "Ideally, we wanted a solution that would allow us to see where dependencies existed in the software we were analysing and then, if necessary, rearrange the structure of the software to eliminate unwanted dependencies," he added.

"Lattix gave us the capability to achieve exactly what we wanted," said Dr Schrewe. Having decided that there were no competitor products that could give them the functionality they wanted at the budget that was right for them, incowia contacted Emenda, who arranged a week's evaluation of Lattix.

"We found the evaluation period useful," explains Dr Schrewe, "as it enabled us to see that Lattix met the specification we were looking for in an architecture tool". Based on what they'd seen of the tool, incowia booked a workshop with Emenda before then purchasing Lattix. "The workshop really helped us appreciate the features Lattix has to offer and also how to use them," said Dr Schrewe. "With this training and the excellent documen-

tation provided by Lattix we have been able to use the tool to its full potential and have never needed any additional support," he added.

incowia program predominantly in Java, though they also do a lot of programming in .NET. They found that Lattix integrated easily into their build environment, which consists of either Eclipse or Visual Studio, depending on the project being Windows-based or not. incowia also use the build automation tool Maven for Java and have found that Lattix has fitted well into their set-up. "We had no problems getting Lattix integrated into our system, especially with Java," explains Dr Schrewe, "and we now have up to eight software architects or developers using the tool at any one time".

For incowia, Lattix has been instrumental in helping their clients achieve their aims. As Dr Schrewe explains: "we recently undertook a large industry enterprise project for a company with 800 subsidiaries. Their main concern was making sure that company data, knowledge and information could be managed through a centralised database. With a huge number of dependencies to manage, Lattix proved invaluable for our work in refactoring our client's system."

Refactoring on such a big scale was made possible by Lattix's Dependency Structure Matrix (DSM), which allows the user to view dependencies between subsystems and then reorder them in a way that optimises the software under scrutiny. As Dr Schrewe says, "the DSM function is powerful but very easy to use. It allows the architect to focus anywhere from system level right down into the individual sub-systems very quickly using the interface. This has been very useful for the refactoring work we do, especially as the dependencies can be reordered very easily and it can be seen whether the changes will work before they are made."

The ability to visually represent software dependencies also allows incowia to generate digital images of their software as it develops. "It is not always easy to keep track of a project as it develops and architects don't always update the project map. Having a

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com.system	application	1	.	.	.	.	.	.	.	.	.
	services										
	dev-1	2	.	.	.	.	.	.	.	.	.
	priv-comp										
	dev-2	3	.	.	.	.	.	.	.	.	.
	dev-3	4	.	.	.	.	.	.	.	.	.
	dev-4	5	.	.	.	.	.	.	.	.	.
	services-interface	6	7	36	87	156	315	.	.	.	1
	other-services	7	2	8	18	106	57	94	.	5	1
	framework										
	timing-services	8	1	16	27	66	82	109	.	1	3
	messaging-service	9	.	.	.	.	.	19	1	3	.
	utilities	10	3	8	18	37	78	73	1	6	3

The Lattix Dependency Structure Matrix

graphics-based overview of the system is very useful for documenting our software," said Dr Schrewe.

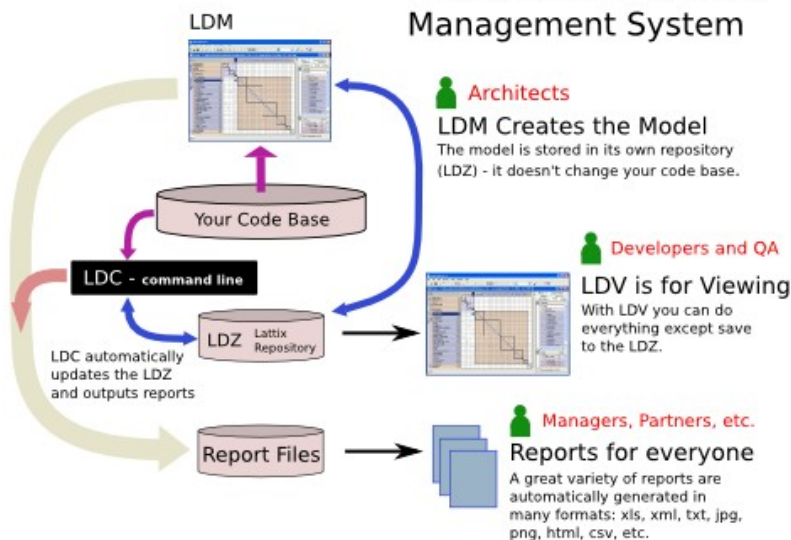
Another function of the Lattix package incowia have found invaluable is the ability to specify design rules for system architecture. As Dr Schrewe explains: "setting architecture rules is very important to incowia. Defining rules means that software is properly structured and the benefits of this can be seen immediately. This is an excellent function for identifying faults, fixing them and keeping the architecture of a system precise".

Overall, incowia have found Lattix to be a very useful tool for getting the most out of their own software and the software of companies for whom they provide consultancy services. "We are very pleased with our experience of Lattix so far and envisage that it will continue to be a useful tool in the future now it is a permanent part of our set-up," said Dr Schrewe. "It has already helped us to manage system architecture on some large projects and continues to help our own developers and architects get the most out of their work," he added.

Regarding Emenda's role in the process of evaluating and learning how to use Lattix, Dr Schrewe was equally positive. "Emenda were very professional from the first contact we had with them," he said. "Emenda helped us integrate Lattix into our set-up and, through the workshop they provided, we learned every aspect of the tool and how to use it very quickly. I would certainly consider using their services again in future," he added.

Emenda's experience of working with incowia was likewise a positive one. "The developers and architects at incowia were very enthusiastic about improving their software architecture and utilising the full range of functions Lattix has to offer," said Emenda CEO Neil Langmead. "We are pleased Lattix has helped them improve their own software architecture and that of their clients. We wish them every success with Lattix in the future".

### The Lattix Architecture Management System



Based throughout Europe, Emenda provide software development and software testing consultancy and tools to customers worldwide. With a strong background in safety- and mission-critical software testing, Emenda has core competence and expertise in the verification and validation of software to external software standards.

For further information on the products and services we offer, as well as the locations of our offices, please visit our website at:

[www.emenda.eu](http://www.emenda.eu)



incowia GmbH is a consulting and implementation specialist for innovative IT solutions. incowia focuses its technology-orientated consulting business on large and medium-sized (SME) enterprises. Their objective is to strengthen the market position of their customers by the innovative usage of information technologies, as well as by reducing the costs of its customers' IT operations.



Lattix has pioneered an award-winning approach using system interdependencies to create an accurate blueprint of software applications, databases and systems. Architects and developers can analyse their systems in detail, edit the structure to create what-if scenarios, and specify design rules, allowing them to formalize and communicate the architecture to the entire organization. The result is higher quality, improved reliability, and much easier maintenance.



emenda [emend'a]  
tr.v [latin]

1. to improve, raise standards
2. to make free from errors
3. to raise level of quality