

# GeometricEDGE—Enabling Secure Data Exchange for Global Collaboration

## *CIMdata Commentary*

### *Key takeaways:*

- *Partnerships and joint ventures (JVs) are an effective way to expand resources and leverage technology to address new business opportunities*
- *Securely sharing data within partnerships, JVs, and even within the enterprise while keeping sensitive information private can be complex, time consuming, and expensive*
- *Quick deployment of appropriate collaboration technology can shorten time to market and improve profitability especially when products and business relationships are complex*
- *GeometricEDGE®, a collaboration solution from Geometric Ltd., simplifies process-based data exchange between partners allowing them to focus on meeting business objectives without getting burdened with data exchange logistics*

Companies need to innovate across the spectrum of their operations. Supporting this innovation organically or through mergers and acquisitions (M&A) is not always feasible. In order to get around these and other limitations, companies set up partnerships and joint ventures with other organizations and even competitors that have complementary resources. To be successful, companies need to be able to flexibly link and unlink their data and processes.

When partnering, there are many issues that can sidetrack the venture from success. At a high level, two critical issues are what data to share and which processes to expose. Sharing confidential data that is not within scope of the partnership may compromise long-term or even short-term competitive advantages. Even more complex, data has a lifecycle and at certain points it must remain confidential. For example, confidential design data from suppliers or other partners being inadvertently shared inappropriately with other partners can have significant consequences. Also, when the partnership ends, what happens to that data? Should it be preserved or removed? In the case of processes, it is often OK to allow a partner to access a process as a black box but unacceptable to allow them to see its details.

Technology infrastructure is an obvious roadblock to sharing data and linking processes. Each partner likely has different authoring and data management applications that they don't want to change. Data has company-specific attributes, nomenclature, part numbers, and access schemes that can be difficult to map, requiring custom translators. Agreeing on how legacy data will be represented within the partnership and back at the parent entities must be done to avoid confusion and avoid non-value added work. Data to be shared between authoring tools, especially CAD, can be notoriously difficult to translate so that the data remains accurate and usable in the target application.

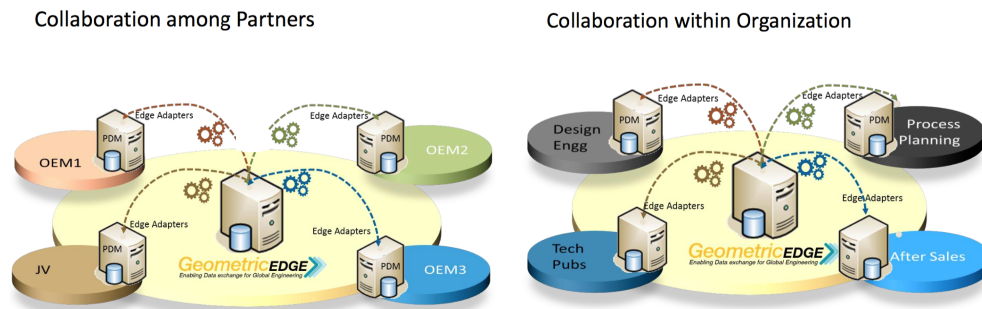
New product development, release management, and change management are core processes that every company uses. In larger organizations they are typically quite formal and supported by workflows that capture approvals and support traceability. In addition to being implemented in different applications, workflows may require access to more general IT services such as LDAP to identify data and workflow privileges.

At CIMdata we see collaboration becoming a way of life for our customers—be it with each other, their suppliers, or joint ventures. The demand for data exchange while simultaneously protecting respective intellectual property continues to grow. The most important tasks are to get the collaboration environment operational quickly, securely, and at a reasonable cost.

## GeometricEDGE

Geometric Ltd. is a global provider of services and software that support product realization in the automotive, aerospace, machinery, and off-highway equipment industries. Software products include applications to support design, manufacturing, and visualization. Services include consulting, implementation, and application management.

In 2015, Geometric released GeometricEDGE, a solution to support complex collaboration needs in partnerships and joint ventures. It is based on over 10 years of experience in supporting customer collaboration needs. In addition to intracompany collaboration, customers can also use it to collaborate across divisions within the same company such as between vehicle and powertrain divisions within automotive OEMs. Figure 1 shows common examples of supported collaboration scenarios. GeometricEDGE appears to have the capabilities and configurability needed to support large scale multi-company collaboration.



**Figure 1—Collaboration Scenarios Supported by GeometricEDGE**

GeometricEDGE uses a hub and spoke model to connect solutions that need to exchange data as shown in Figure 2. It consists of adaptors that push and pull data (metadata, files, and workflows) to and from multiple PDM solutions. The collaboration hub usually sits outside the firewalls helping to ensure security rules are respected. Data mapping and processing occurs within the collaboration hub and the data model is extensible. While data is persistent within the hub, partners usually work within their native environment. CIMdata is pleased to see that Geometric supports multi-discipline data including mechanical, electronic, and software within the environment and that it allows participants to work in their native environments.

GeometricEDGE supports real-time work-in-process (WIP) data sharing while acting as a complex process coordinator. With the collaboration hub, it coordinates complex processes of pulling data from one repository, mapping it to the target format, performing the appropriate translations and transformations, validating quality, and pushing data to the partner's repository. When the environment consists of different authoring tools such as different CAD applications, GeometricEDGE will leverage direct and standards-based translators to convert formats transparently. CIMdata was especially intrigued by the consolidator capability that allows data to be mapped from multiple solutions such as PDM and ERP to create a single virtual BOM view of the product. An example is combining engine geometry and weight into a single integration view. Geometric has CAD/PDM adaptors for most of the common solutions used within their target markets.

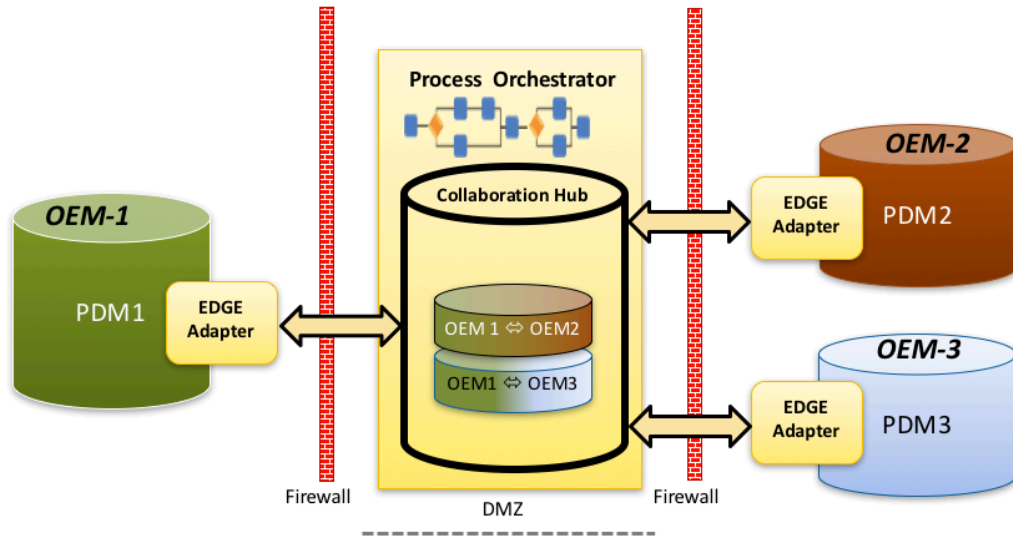


Figure 2—GeometricEDGE Solution Architecture

Although initially developed to support collaboration needs within the automotive industry, CIMdata can see that the GeometricEDGE solution can satisfy collaboration needs in other industries such as aerospace and defense.

Implementing GeometricEDGE is not an out-of-the-box experience since it needs to be connected to existing solutions, but it leverages standard adaptors and common IT infrastructure technology such as LDAP. OOTB process templates are available to accelerate implementations. Geometric has service offerings to support implementations, along with ongoing operations support of GeometricEDGE if necessary.

## Conclusion

Most technical people are aware of the growth in product and data complexity. However, management may underestimate the complexity of configuring a secure, efficient collaboration environment when setting up high-level large scale collaborations such as partnerships and joint ventures. Making sure collaboration and data sharing happen quickly and efficiently while protecting intellectual property is critical to efficient operations.

GeometricEDGE is a feature-rich solution designed to address complex collaboration and data exchange needs between large organizations. It was released in 2015, yet is built on a 10-year legacy of implementing interoperability solutions to support collaboration. CIMdata sees GeometricEDGE as a solid solution to complex collaboration issues. Enabling users to use their existing toolsets while accessing partner data reduces technical and political issues. Reducing issues means more time to focus on the product, which is always a good thing.

## About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI

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