

CPO Statement of Müller-BBM VibroAkustik Systeme GmbH

Following the prerequisites of ProSTEP iViP's Code of PLM Openness (CPO) IT vendors shall determine and provide a list of their relevant products and the degree of fulfillment as a "CPO Statement" (cf. CPO Chapter 2.8).

This CPO Statement refers to:

Product Name	PAK 5.x
Product Version	PAK 5.8
Contact	Günter Lang glang@muellerbbm-vas.de

This CPO Statement was created and published by Müller-BBM VibroAkustik Systeme GmbH in form of a self-assessment with regard to the CPO.

Publication Date of this CPO Statement: 2015-06-05

Content

1 Executive Summary	2
2 Details of Self-Assessment	3
2.1 CPO Chapter 2.1: Interoperability	3
2.2 CPO Chapter 2.2: Infrastructure	3
2.3 CPO Chapter 2.5: Standards	3
2.4 CPO Chapter 2.6: Architecture	3
2.5 CPO Chapter 2.7: Partnership	4
2.5.1 Data Generated by Users	4
2.5.2 Partnership Models	4
2.5.3 Support of User and Innovation Groups	4
2.6 Additional Information	4

1 Executive Summary

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic physical parameters, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement task at hand results in our innovative solutions that seamlessly integrate into existing system environments.

Müller-BBM VibroAkustik Systeme continuously demonstrates enduring expertise in and commitment to standards. This is reflected for example in our involvement in the definition of various ASAM standards.

Müller-BBM VibroAkustik Systeme has self-committed to the CPO statement for the currently available software products of the PAK family from Müller-BBM VibroAkustik Systeme: PAK 5.x, PAK capture suite, PAK pass-by, PAK acs, PAK cloud and PAK edp. Following our commitment to the Codex of PLM Openness, we will update our self-assessment with regard to all upcoming new products automatically.

Company Name:	Müller-BBM VibroAkustik Systeme GmbH	Contact Person:	Günter Lang
Product Name:	PAK 5.x		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>		
2.2 Infrastructure	<input checked="" type="checkbox"/>		
2.3 Extensibility	<input checked="" type="checkbox"/>		
2.4 Interfaces	<input checked="" type="checkbox"/>		
2.5 Standards	<input checked="" type="checkbox"/>		
2.6 Architecture	<input checked="" type="checkbox"/>		
2.7 Partnership	<input checked="" type="checkbox"/>		
List of inherent supported neutral standards	API: <input checked="" type="checkbox"/>C/C++ / <input checked="" type="checkbox"/>Java / <input type="checkbox"/>.NET / <input checked="" type="checkbox"/>Web Services / Others: ASAM (ODS), Universal File (UF15, UF58), Standard Data Format (SDF), RPCIII, WAVE, SVG, COM 3D: <input type="checkbox"/>IGES / <input type="checkbox"/>JT / <input type="checkbox"/>STL / <input type="checkbox"/>STEP / <input type="checkbox"/>VRML / Others: - DX: <input type="checkbox"/>eCI@ss / <input type="checkbox"/>FMI / <input type="checkbox"/>IDX / <input type="checkbox"/>PDF / <input type="checkbox"/>ReqIF / <input type="checkbox"/>STEP / <input type="checkbox"/>VEC		

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Müller-BBM VibroAkustik Systeme GmbH with regard to PAK 5.x.

2.1 CPO Chapter 2.1: Interoperability

APIs have the following standard language bindings:

- **Apache Xerces-C++ version 3.0.1**
- **Boost C++ libraries version 1.39.0**
- **Loki C++ library from SourceForge.net®**

Remark: If detailed information with regard to bindings are not given (e.g. C++, instead of C++11 (ISO/IEC 14882:2011)), maybe additional clarification efforts arise.

2.2 CPO Chapter 2.2: Infrastructure

Supported platforms (hardware and OS) are:

- **Supported OS: Windows® Vista, Windows® 7, Windows® 8**
- **Supported Hardware: Windows® PCs, PAK MKII frontends**

Remark: If detailed information with regard to platforms are not given (e.g. OS Version and Service Pack), maybe additional clarification efforts arise.

2.3 CPO Chapter 2.5: Standards

Supported data exchange formats:

- **ASAM ODS ATF/XML, Universal File (UF15, UF58), Standard Data Format (SDF), RPCIII, WAVE, SVG, COM, and**
- **Proprietary data formats such as HDF and DATX**

Remark: If detailed information with regard to name and version (e.g. STEP AP 214 (ISO 10303-214:2010)), considered Implementation Guidelines (e.g. CAX-IF Recommended Practices) and potential participation in related Implementor Forums (e.g. CAX-IF) are not given, maybe additional clarification efforts arise.

2.4 CPO Chapter 2.6: Architecture

The IT system's architecture is conforming CPO 2.6

Yes / No

- **The architecture of PAK 5.x is clearly documented in the embedded user manual of the software. Users have free access to this documentation.**
- **We confirm the following statements:**

The IT architecture comprises the components making up an IT system, the relationships between these components and the way in which they interact and have been integrated.

IT customers can access the individual components so that they can create GUIs (clients) for specific user groups which leverage the capabilities of the different IT systems.

In addition, IT customers can access the individual components so that administration and continued operation of the different layers (e.g. OS, DB, application and client) can be delegated to the appropriate internal organizations.

2.5 CPO Chapter 2.7: Partnership

2.5.1 Data Generated by Users

Data generated by IT users with an IT system is and remains the intellectual property of these IT users, according CPO 2.7.4 **Yes** / No

2.5.2 Partnership Models

Partnership models are offered according CPO 2.7.7 **Yes** / No

Openness of an IT system exists between the IT vendor, the IT service provider and the IT customer. We are working across vendors to address customer requirements for their specific interdisciplinary and multi-system mapping of workflows. As examples, we would like to mention the partnerships with HEAD acoustics GmbH regarding the data format exchange and with Siemens PLM Software/LMS regarding adjustment in the ASAM ODS ATF/X format exchange.

2.5.3 Support of User and Innovation Groups

Supported groups are:

PAK 5.x users are invited once a year to the Annual User Group Meeting, the so called PAK-Tag. In addition, continuous user support is provided via the PAK hotline. We are an active member in innovation and standardization groups, e.g. ASAM, openMDM®, Psychoacoustic Standardization (DIN 45631, DIN 45692, ISO 532), etc.

2.6 Additional Information

Statements concerning CPO Chapter 2.3 “Extensibility” and Chapter 2.4 “Interfaces” can be noted here. For example, statements concerning “Development Environments”, “Third-party Integration”, “Version and Release Compatibility”, possibilities for “Batch Processing” and “Cancellation”.

PAK family members consist of components that are highly scalable and modular. Over these building blocks interfacing to other 3rd party systems is possible. This ensures also the continuous extensibility of PAK systems.

Such building blocks are the ARI interface – an open documented interface for the integration of own algorithms – or the COM interface for the connection with 3rd party systems.

CPO Statement of Müller-BBM VibroAkustik Systeme GmbH

Following the prerequisites of ProSTEP iViP's Code of PLM Openness (CPO) IT vendors shall determine and provide a list of their relevant products and the degree of fulfillment as a "CPO Statement" (cf. CPO Chapter 2.8).

This CPO Statement refers to:

Product Name	PAK capture suite
Product Version	PAK capture suite 1.2
Contact	Günter Lang glang@muellerbbm-vas.de

This CPO Statement was created and published by Müller-BBM VibroAkustik Systeme GmbH in form of a self-assessment with regard to the CPO.

Publication Date of this CPO Statement: 2015-06-05

Content

1 Executive Summary	2
2 Details of Self-Assessment	3
2.1 CPO Chapter 2.1: Interoperability	3
2.2 CPO Chapter 2.2: Infrastructure	3
2.3 CPO Chapter 2.5: Standards	3
2.4 CPO Chapter 2.6: Architecture	3
2.5 CPO Chapter 2.7: Partnership	4
2.5.1 Data Generated by Users	4
2.5.2 Partnership Models	4
2.5.3 Support of User and Innovation Groups	4
2.6 Additional Information	4

1 Executive Summary

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic physical parameters, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement task at hand results in our innovative solutions that seamlessly integrate into existing system environments.

Müller-BBM VibroAkustik Systeme continuously demonstrates enduring expertise in and commitment to standards. This is reflected for example in our involvement in the definition of various ASAM standards.

Müller-BBM VibroAkustik Systeme has self-committed to the CPO statement for the currently available software products of the PAK family from Müller-BBM VibroAkustik Systeme: PAK 5.x, PAK capture suite, PAK pass-by, PAK acs, PAK cloud and PAK edp. Following our commitment to the Codex of PLM Openness, we will update our self-assessment with regard to all upcoming new products automatically.

Company Name:	Müller-BBM VibroAkustik Systeme GmbH	Contact Person:	Günter Lang
Product Name:	PAK capture suite		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>		
2.2 Infrastructure	<input checked="" type="checkbox"/>		
2.3 Extensibility	<input type="checkbox"/>	Partially fulfilled – 2.3.1.c and 2.3.2, an extensibility is provided via support services, if applicable	
2.4 Interfaces	<input checked="" type="checkbox"/>		
2.5 Standards	<input checked="" type="checkbox"/>		
2.6 Architecture	<input checked="" type="checkbox"/>		
2.7 Partnership	<input checked="" type="checkbox"/>		
List of inherent supported neutral standards	API: <input type="checkbox"/> C/C++ / <input type="checkbox"/> Java / <input type="checkbox"/> .NET / <input checked="" type="checkbox"/> Web Services / Others: ASAM (ODS) 3D: <input type="checkbox"/> IGES / <input type="checkbox"/> JT / <input type="checkbox"/> STL / <input type="checkbox"/> STEP / <input type="checkbox"/> VRML / Others: - DX: <input type="checkbox"/> eCl@ss / <input type="checkbox"/> FMI / <input type="checkbox"/> IDX / <input type="checkbox"/> PDF / <input type="checkbox"/> ReqIF / <input type="checkbox"/> STEP / <input type="checkbox"/> VEC		

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Müller-BBM VibroAkustik Systeme GmbH with regard to PAK capture suite.

2.1 CPO Chapter 2.1: Interoperability

APIs have the following standard language bindings:

- **Core Plot version 2.0**
- **SBJson for Objective-C 2.3.1**
- **IKVM.NET 7.2.4630.5**
- **libxml2 2.7.8**
- **uthash 1.9.9**

Remark: If detailed information with regard to bindings are not given (e.g. C++, instead of C++11 (ISO/IEC 14882:2011)), maybe additional clarification efforts arise.

2.2 CPO Chapter 2.2: Infrastructure

Supported platforms (hardware and OS) are:

- **Supported OS: iOS®, Android™**
 - **PAK capture App: iOS®, Android™**
 - **PAK tunes: Windows®**
 - **PAK recorder: VxWorks 6.7**
- **Supported Hardware:**
 - **PAK capture App: Smart devices (iPad, iPhone, Android™-based devices)**
 - **PAK tunes: Windows® PCs**
 - **PAK recorder: PAK MKII frontends, frontends with PAK live technology**

Remark: If detailed information with regard to platforms are not given (e.g. OS Version and Service Pack), maybe additional clarification efforts arise.

2.3 CPO Chapter 2.5: Standards

Supported data exchange formats:

- **ASAM ODS ATF/XML**

Remark: If detailed information with regard to name and version (e.g. STEP AP 214 (ISO 10303-214:2010)), considered Implementation Guidelines (e.g. CAX-IF Recommended Practices) and potential participation in related Implementor Forums (e.g. CAX-IF) are not given, maybe additional clarification efforts arise.

2.4 CPO Chapter 2.6: Architecture

The IT system's architecture is conforming CPO 2.6

Yes / No

- **The architecture of PAK capture suite is clearly documented in the embedded user manual of the software. Users have free access to this documentation.**
- **We confirm the following statement:**

The IT architecture comprises the components making up an IT system, the relationships between these components and the way in which they interact and have been integrated.

2.5 CPO Chapter 2.7: Partnership

2.5.1 Data Generated by Users

Data generated by IT users with an IT system is and remains the intellectual property of these IT users, according CPO 2.7.4 **Yes** / No

2.5.2 Partnership Models

Partnership models are offered according CPO 2.7.7 **Yes** / No

Openness of the IT system exists between the IT vendor, the IT service provider and the IT customer. We would provide such a partnership model where necessary. Since the beginning of the PAK family, we are cultivating a close partnership with our customers. These partnerships are stimulating the further product development of PAK capture suite as well. We are taking into account the requirements of our IT customers for PAK capture suite.

2.5.3 Support of User and Innovation Groups

Supported groups are:

PAK capture suite users are regularly updated by service releases for bug fixes and benefit a 90 days hotline support. We provide CARE packages for functional enhancements.

2.6 Additional Information

Statements concerning CPO Chapter 2.3 "Extensibility" and Chapter 2.4 "Interfaces" can be noted here. For example, statements concerning "Development Environments", "Third-party Integration", "Version and Release Compatibility", possibilities for "Batch Processing" and "Cancellation".

PAK family members consist of components that are scalable and modular. Over these building blocks interfacing to other 3rd party systems is possible. This ensures also the continuous extensibility of PAK systems.

As PAK capture suite is based on PAK live technology, it can be extended over the various applicable services and further interacts with any frontend interfacing PAK live technology.

CPO Statement of Müller-BBM VibroAkustik Systeme GmbH

Following the prerequisites of ProSTEP iViP's Code of PLM Openness (CPO) IT vendors shall determine and provide a list of their relevant products and the degree of fulfillment as a "CPO Statement" (cf. CPO Chapter 2.8).

This CPO Statement refers to:

Product Name	PAK edp
Product Version	PAK edp 1.3
Contact	Günter Lang glang@muellerbbm-vas.de

This CPO Statement was created and published by Müller-BBM VibroAkustik Systeme GmbH in form of a self-assessment with regard to the CPO.

Publication Date of this CPO Statement: 2015-06-05

Content

1 Executive Summary	2
2 Details of Self-Assessment	3
2.1 CPO Chapter 2.1: Interoperability	3
2.2 CPO Chapter 2.2: Infrastructure	3
2.3 CPO Chapter 2.5: Standards	3
2.4 CPO Chapter 2.6: Architecture	3
2.5 CPO Chapter 2.7: Partnership	3
2.5.1 Data Generated by Users	3
2.5.2 Partnership Models	4
2.5.3 Support of User and Innovation Groups	4
2.6 Additional Information	4

1 Executive Summary

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic physical parameters, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement task at hand results in our innovative solutions that seamlessly integrate into existing system environments.

Müller-BBM VibroAkustik Systeme continuously demonstrates enduring expertise in and commitment to standards. This is reflected for example in our involvement in the definition of various ASAM standards.

Müller-BBM VibroAkustik Systeme has self-committed to the CPO statement for the currently available software products of the PAK family from Müller-BBM VibroAkustik Systeme: PAK 5.x, PAK capture suite, PAK pass-by, PAK acs, PAK cloud and PAK edp. Following our commitment to the Codex of PLM Openness, we will update our self-assessment with regard to all upcoming new products automatically.

Company Name:	Müller-BBM VibroAkustik Systeme GmbH	Contact Person:	Günter Lang
Product Name:	PAK edp		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>		
2.2 Infrastructure	<input checked="" type="checkbox"/>		
2.3 Extensibility	<input checked="" type="checkbox"/>		
2.4 Interfaces	<input checked="" type="checkbox"/>		
2.5 Standards	<input checked="" type="checkbox"/>		
2.6 Architecture	<input checked="" type="checkbox"/>		
2.7 Partnership	<input checked="" type="checkbox"/>		
List of inherent supported neutral standards (API counted for customers)	API: <input type="checkbox"/> C/C++ / <input type="checkbox"/> Java / <input type="checkbox"/> .NET / <input checked="" type="checkbox"/> Web Services / Others: ASAM (ODS), SVG, HTML, HTTP(S), WAVE 3D: <input type="checkbox"/> IGES / <input type="checkbox"/> JT / <input type="checkbox"/> STL / <input type="checkbox"/> STEP / <input type="checkbox"/> VRML / Others: - DX: <input type="checkbox"/> eCI@ss / <input type="checkbox"/> FMI / <input type="checkbox"/> IDX / <input checked="" type="checkbox"/> PDF / <input type="checkbox"/> ReqIF / <input type="checkbox"/> STEP / <input type="checkbox"/> VEC		

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Müller-BBM VibroAkustik Systeme GmbH with regard to PAK edp.

2.1 CPO Chapter 2.1: Interoperability

APIs have the following standard language bindings:

- **No language binding for Web Services**

Remark: If detailed information with regard to bindings are not given (e.g. C++, instead of C++11 (ISO/IEC 14882:2011)), maybe additional clarification efforts arise.

2.2 CPO Chapter 2.2: Infrastructure

Supported platforms (hardware and OS) are:

- **Supported OS: Windows®7 (64 bit), Windows®8.1 (64 bit), IE8/9/11, FFOX25, Windows® Server 2008 R2, Windows® Server 2012 R2**
- **Supported Hardware: Windows® PCs (for Server+Client), Windows® smart devices supporting IE9 (for Clients only)**

Remark: If detailed information with regard to platforms are not given (e.g. OS Version and Service Pack), maybe additional clarification efforts arise.

2.3 CPO Chapter 2.5: Standards

Supported data exchange formats:

- **ASAM ODS ATF/XML**

Remark: If detailed information with regard to name and version (e.g. STEP AP 214 (ISO 10303-214:2010)), considered Implementation Guidelines (e.g. CAX-IF Recommended Practices) and potential participation in related Implementor Forums (e.g. CAX-IF) are not given, maybe additional clarification efforts arise.

2.4 CPO Chapter 2.6: Architecture

The IT system's architecture is conforming CPO 2.6

Yes / No

- **The architecture of PAK edp is clearly documented in the embedded user manual of the software. Users have free access to this documentation.**

We approve the following statements:

The IT architecture comprises the components making up an IT system, the relationships between these components and the way in which they interact and have been integrated.

IT customers can access the individual components so that they can create GUIs (clients) for specific user groups which leverage the capabilities of the different IT systems.

In addition, IT customers can access the individual components so that administration and continued operation of the different layers (e.g. OS, DB, application and client) can be delegated to the appropriate internal organizations.

2.5 CPO Chapter 2.7: Partnership

2.5.1 Data Generated by Users

Data generated by IT users with an IT system is and remains the intellectual property of these IT users, according CPO 2.7.4

Yes / No

2.5.2 Partnership Models

Partnership models are offered according CPO 2.7.7

Yes / No

Openness of the IT system exists between the IT vendor, the IT service provider and the IT customer. We would provide such a partnership model where necessary. Since the beginning of the PAK family, we are cultivating a close partnership with our customers. These partnerships are stimulating the further product development of PAK edp as well. We are taking into account the requirements of our IT customers for PAK edp.

2.5.3 Support of User and Innovation Groups

Supported groups are:

PAK edp administrators benefit a support hotline and users benefit regular updates and further development.

2.6 Additional Information

Statements concerning CPO Chapter 2.3 "Extensibility" and Chapter 2.4 "Interfaces" can be noted here. For example, statements concerning "Development Environments", "Third-party Integration", "Version and Release Compatibility", possibilities for "Batch Processing" and "Cancellation".

PAK family members consist of components that are highly scalable and modular. Over these building blocks interfacing to other 3rd party systems is possible. This ensures also the continuous extensibility of PAK systems.

PAK edp as data integration platform can seamlessly be integrated into customer environments and has interfaces to interact.

CPO Statement of Müller-BBM VibroAkustik Systeme GmbH

Following the prerequisites of ProSTEP iViP's Code of PLM Openness (CPO) IT vendors shall determine and provide a list of their relevant products and the degree of fulfillment as a "CPO Statement" (cf. CPO Chapter 2.8).

This CPO Statement refers to:

Product Name	PAK pass-by
Product Version	PAK pass-by 1.3
Contact	Günter Lang glang@muellerbbm-vas.de

This CPO Statement was created and published by Müller-BBM VibroAkustik Systeme GmbH in form of a self-assessment with regard to the CPO.

Publication Date of this CPO Statement: 2015-06-05

Content

1 Executive Summary	2
2 Details of Self-Assessment	3
2.1 CPO Chapter 2.1: Interoperability	3
2.2 CPO Chapter 2.2: Infrastructure	3
2.3 CPO Chapter 2.5: Standards	3
2.4 CPO Chapter 2.6: Architecture	3
2.5 CPO Chapter 2.7: Partnership	4
2.5.1 Data Generated by Users	4
2.5.2 Partnership Models	4
2.5.3 Support of User and Innovation Groups	4
2.6 Additional Information	4

1 Executive Summary

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic physical parameters, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement task at hand results in our innovative solutions that seamlessly integrate into existing system environments.

Müller-BBM VibroAkustik Systeme continuously demonstrates enduring expertise in and commitment to standards. This is reflected for example in our involvement in the definition of various ASAM standards.

Müller-BBM VibroAkustik Systeme has self-committed to the CPO statement for the currently available software products of the PAK family from Müller-BBM VibroAkustik Systeme: PAK 5.x, PAK capture suite, PAK pass-by, PAK acs, PAK cloud and PAK edp. Following our commitment to the Codex of PLM Openness, we will update our self-assessment with regard to all upcoming new products automatically.

Company Name:	Müller-BBM VibroAkustik Systeme GmbH	Contact Person:	Günter Lang
Product Name:	PAK pass-by		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>		
2.2 Infrastructure	<input checked="" type="checkbox"/>		
2.3 Extensibility	<input checked="" type="checkbox"/>		
2.4 Interfaces	<input checked="" type="checkbox"/>		
2.5 Standards	<input checked="" type="checkbox"/>		
2.6 Architecture	<input checked="" type="checkbox"/>		
2.7 Partnership	<input checked="" type="checkbox"/>		
List of inherent supported neutral standards	API: <input checked="" type="checkbox"/> C/C++ / <input checked="" type="checkbox"/> Java / <input type="checkbox"/> .NET / <input checked="" type="checkbox"/> Web Services / Others: ASAM (ODS) 3D: <input type="checkbox"/> IGES / <input type="checkbox"/> JT / <input type="checkbox"/> STL / <input type="checkbox"/> STEP / <input type="checkbox"/> VRML / Others: - DX: <input type="checkbox"/> eCI@ss / <input type="checkbox"/> FMI / <input type="checkbox"/> IDX / <input checked="" type="checkbox"/> PDF / <input type="checkbox"/> ReqIF / <input type="checkbox"/> STEP / <input type="checkbox"/> VEC		

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Müller-BBM VibroAkustik Systeme GmbH with regard to PAK pass-by.

2.1 CPO Chapter 2.1: Interoperability

APIs have the following standard language bindings:

- **Apache Xerces-C++ version 3.0.1**
- **Boost C++ libraries version 1.39.0**
- **Loki C++ library from SourceForge.net®**
- **Java® Runtime Environment (JRE) version 6**
- **Prototype JavaScript framework, version 1.7.1**

Remark: If detailed information with regard to bindings are not given (e.g. C++, instead of C++11 (ISO/IEC 14882:2011)), maybe additional clarification efforts arise.

2.2 CPO Chapter 2.2: Infrastructure

Supported platforms (hardware and OS) are:

- **Supported OS: iOS®, Windows®**
- **Supported Hardware:**
 - **PAK pass-by App: iPad**
 - **PAK pass-by application: Windows® PCs, PAK MKII frontends, Telemetry devices**

Remark: If detailed information with regard to platforms are not given (e.g. OS Version and Service Pack), maybe additional clarification efforts arise.

2.3 CPO Chapter 2.5: Standards

Supported data exchange formats:

- **ASAM ODS ATF/XML**

Remark: If detailed information with regard to name and version (e.g. STEP AP 214 (ISO 10303-214:2010)), considered Implementation Guidelines (e.g. CAX-IF Recommended Practices) and potential participation in related Implementor Forums (e.g. CAX-IF) are not given, maybe additional clarification efforts arise.

2.4 CPO Chapter 2.6: Architecture

The IT system's architecture is conforming CPO 2.6

Yes / No

- **The architecture of PAK pass-by is clearly documented in the embedded user manual of the software. Users have free access to this documentation.**
- **We confirm the following statements:**

The IT architecture comprises the components making up an IT system, the relationships between these components and the way in which they interact and have been integrated.

IT customers can access the individual components so that they can create GUIs (clients) for specific user groups which leverage the capabilities of the different IT systems.

In addition, IT customers can access the individual components so that administration and continued operation of the different layers (e.g. OS, DB, application and client) can be delegated to the appropriate internal organizations.

2.5 CPO Chapter 2.7: Partnership

2.5.1 Data Generated by Users

Data generated by IT users with an IT system is and remains the intellectual property of these IT users, according CPO 2.7.4 **Yes** / No

2.5.2 Partnership Models

Partnership models are offered according CPO 2.7.7 **Yes** / No

Openness of the IT system exists between the IT vendor, the IT service provider and the IT customer. We would provide such a partnership model where necessary. Since the beginning of the PAK family, we are cultivating a close partnership with our customers. These partnerships are stimulating the further product development of PAK pass-by as well. We are taking into account the requirements of our IT customers for PAK pass-by.

2.5.3 Support of User and Innovation Groups

Supported groups are:

PAK pass-by users are regularly updated by product news and benefit a maintenance package providing service releases and a hotline support.

2.6 Additional Information

Statements concerning CPO Chapter 2.3 “Extensibility” and Chapter 2.4 “Interfaces” can be noted here. For example, statements concerning “Development Environments”, “Third-party Integration”, “Version and Release Compatibility”, possibilities for “Batch Processing” and “Cancellation”.

PAK family members consist of components that are scalable and modular. Over these building blocks interfacing to other 3rd party systems is possible. This ensures also the continuous extensibility of PAK systems.

PAK pass-by interfaces PAK cloud and can be extended over the various applicable services of PAK cloud, such as an order system.

CPO Statement of Müller-BBM VibroAkustik Systeme GmbH

Following the prerequisites of ProSTEP iViP's Code of PLM Openness (CPO) IT vendors shall determine and provide a list of their relevant products and the degree of fulfillment as a "CPO Statement" (cf. CPO Chapter 2.8).

This CPO Statement refers to:

Product Name	PAK cloud
Product Version	PAK cloud
Contact	Günter Lang glang@muellerbbm-vas.de

This CPO Statement was created and published by Müller-BBM VibroAkustik Systeme GmbH in form of a self-assessment with regard to the CPO.

Publication Date of this CPO Statement: 2015-06-05

Content

1 Executive Summary	2
2 Details of Self-Assessment	3
2.1 CPO Chapter 2.1: Interoperability	3
2.2 CPO Chapter 2.2: Infrastructure	3
2.3 CPO Chapter 2.5: Standards	3
2.4 CPO Chapter 2.6: Architecture	3
2.5 CPO Chapter 2.7: Partnership	3
2.5.1 Data Generated by Users	3
2.5.2 Partnership Models	4
2.5.3 Support of User and Innovation Groups	4
2.6 Additional Information	4

1 Executive Summary

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic physical parameters, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement task at hand results in our innovative solutions that seamlessly integrate into existing system environments.

Müller-BBM VibroAkustik Systeme continuously demonstrates enduring expertise in and commitment to standards. This is reflected for example in our involvement in the definition of various ASAM standards.

Müller-BBM VibroAkustik Systeme has self-committed to the CPO statement for the currently available software products of the PAK family from Müller-BBM VibroAkustik Systeme: PAK 5.x, PAK capture suite, PAK pass-by, PAK acs, PAK cloud and PAK edp. Following our commitment to the Codex of PLM Openness, we will update our self-assessment with regard to all upcoming new products automatically.

Company Name:	Müller-BBM VibroAkustik Systeme GmbH	Contact Person:	Günter Lang
Product Name:	PAK cloud		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>		
2.2 Infrastructure	<input checked="" type="checkbox"/>		
2.3 Extensibility	<input checked="" type="checkbox"/>		
2.4 Interfaces	<input checked="" type="checkbox"/>		
2.5 Standards	<input checked="" type="checkbox"/>		
2.6 Architecture	<input checked="" type="checkbox"/>		
2.7 Partnership	<input checked="" type="checkbox"/>		
List of inherent supported neutral standards (API counted for customers)	API: <input type="checkbox"/> C/C++ / <input type="checkbox"/> Java / <input type="checkbox"/> .NET / <input checked="" type="checkbox"/> Web Services / Others: ASAM (ODS), HTML, HTTP(S) 3D: <input type="checkbox"/> IGES / <input type="checkbox"/> JT / <input type="checkbox"/> STL / <input type="checkbox"/> STEP / <input type="checkbox"/> VRML / Others: - DX: <input type="checkbox"/> eCI@ss / <input type="checkbox"/> FMI / <input type="checkbox"/> IDX / <input type="checkbox"/> PDF / <input type="checkbox"/> ReqIF / <input type="checkbox"/> STEP / <input type="checkbox"/> VEC		

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Müller-BBM VibroAkustik Systeme GmbH with regard to PAK cloud.

2.1 CPO Chapter 2.1: Interoperability

APIs have the following standard language bindings:

- **No language binding for Web Services**

Remark: If detailed information with regard to bindings are not given (e.g. C++, instead of C++11 (ISO/IEC 14882:2011)), maybe additional clarification efforts arise.

2.2 CPO Chapter 2.2: Infrastructure

Supported platforms (hardware and OS) are:

- **Supported OS: Windows®7 (64 bit), Windows®8.1 (64 bit), Internet Explorer (IE) 8/9/11 and FFOX**
- **Supported Hardware: Windows® PCs (for Server + Client), Windows® smart devices supporting IE (for Clients only)**

Remark: If detailed information with regard to platforms are not given (e.g. OS Version and Service Pack), maybe additional clarification efforts arise.

2.3 CPO Chapter 2.5: Standards

Supported data exchange formats:

- **ASAM ODS ATF/XML**

Remark: If detailed information with regard to name and version (e.g. STEP AP 214 (ISO 10303-214:2010)), considered Implementation Guidelines (e.g. CAX-IF Recommended Practices) and potential participation in related Implementor Forums (e.g. CAX-IF) are not given, maybe additional clarification efforts arise.

2.4 CPO Chapter 2.6: Architecture

The IT system's architecture is conforming CPO 2.6 Yes / No

- **The architecture of PAK cloud is clearly documented in the embedded user manual of the software. Users have free access to this documentation.**

We approve the following statements:

The IT architecture comprises the components making up an IT system, the relationships between these components and the way in which they interact and have been integrated.

IT customers can access the individual components so that they can create GUIs (clients) for specific user groups which leverage the capabilities of the different IT systems.

In addition, IT customers can access the individual components so that administration and continued operation of the different layers (e.g. OS, DB, application and client) can be delegated to the appropriate internal organizations.

2.5 CPO Chapter 2.7: Partnership

2.5.1 Data Generated by Users

Data generated by IT users with an IT system is and remains the intellectual property of these IT users, according CPO 2.7.4 Yes / No

2.5.2 Partnership Models

Partnership models are offered according CPO 2.7.7

Yes / No

Openness of the IT system exists between the IT vendor, the IT service provider and the IT customer. We would provide such a partnership model where necessary. Since the beginning of the PAK family, we are cultivating a close partnership with our customers. These partnerships are stimulating the further product development of PAK cloud as well. We are taking into account the requirements of our IT customers for PAK cloud.

2.5.3 Support of User and Innovation Groups

Supported groups are:

PAK cloud users benefit a regular maintenance and further development in technology.

2.6 Additional Information

Statements concerning CPO Chapter 2.3 "Extensibility" and Chapter 2.4 "Interfaces" can be noted here. For example, statements concerning "Development Environments", "Third-party Integration", "Version and Release Compatibility", possibilities for "Batch Processing" and "Cancellation".

PAK family members consist of components that are highly scalable and modular. Over these building blocks interfacing to other 3rd party systems is possible. This ensures also the continuous extensibility of PAK systems.

PAK cloud advances customer workflows by a scalable infrastructure that interfaces the ways they like to work. PAK cloud is extensible by its various services and interfaces to other environments such as openMDM®.

CPO Statement of Müller-BBM VibroAkustik Systeme GmbH

Following the prerequisites of ProSTEP iViP's Code of PLM Openness (CPO) IT vendors shall determine and provide a list of their relevant products and the degree of fulfillment as a "CPO Statement" (cf. CPO Chapter 2.8).

This CPO Statement refers to:

Product Name	PAK acs
Product Version	PAK acs 1.0
Contact	Günter Lang glang@muellerbbm-vas.de

This CPO Statement was created and published by Müller-BBM VibroAkustik Systeme GmbH in form of a self-assessment with regard to the CPO.

Publication Date of this CPO Statement: 2015-06-05

Content

1 Executive Summary	2
2 Details of Self-Assessment	3
2.1 CPO Chapter 2.1: Interoperability	3
2.2 CPO Chapter 2.2: Infrastructure	3
2.3 CPO Chapter 2.5: Standards	3
2.4 CPO Chapter 2.6: Architecture	3
2.5 CPO Chapter 2.7: Partnership	4
2.5.1 Data Generated by Users	4
2.5.2 Partnership Models	4
2.5.3 Support of User and Innovation Groups	4
2.6 Additional Information	4

1 Executive Summary

Müller-BBM VibroAkustik Systeme is one of the leading suppliers of vibroacoustic measurement technology for the interpretation of dynamic physical parameters, particularly in the fields of acoustics, vibration and strength. Our engineering expertise and competence for the measurement task at hand results in our innovative solutions that seamlessly integrate into existing system environments.

Müller-BBM VibroAkustik Systeme continuously demonstrates enduring expertise in and commitment to standards. This is reflected for example in our involvement in the definition of various ASAM standards.

Müller-BBM VibroAkustik Systeme has self-committed to the CPO statement for the currently available software products of the PAK family from Müller-BBM VibroAkustik Systeme: PAK 5.x, PAK capture suite, PAK pass-by, PAK acs, PAK cloud and PAK edp. Following our commitment to the Codex of PLM Openness, we will update our self-assessment with regard to all upcoming new products automatically.

Company Name:	Müller-BBM VibroAkustik Systeme GmbH	Contact Person:	Günter Lang
Product Name:	PAK acs		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>		
2.2 Infrastructure	<input checked="" type="checkbox"/>		
2.3 Extensibility	<input checked="" type="checkbox"/>		
2.4 Interfaces	<input checked="" type="checkbox"/>		
2.5 Standards	<input checked="" type="checkbox"/>		
2.6 Architecture	<input checked="" type="checkbox"/>		
2.7 Partnership	<input checked="" type="checkbox"/>		
List of inherent supported neutral standards	API: <input checked="" type="checkbox"/> C/C++ / <input type="checkbox"/> Java / <input type="checkbox"/> .NET / <input type="checkbox"/> Web Services / Others: CSV, Excel® 3D: <input type="checkbox"/> IGES / <input type="checkbox"/> JT / <input type="checkbox"/> STL / <input type="checkbox"/> STEP / <input type="checkbox"/> VRML / Others: - DX: <input type="checkbox"/> eCI@ss / <input type="checkbox"/> FMI / <input type="checkbox"/> IDX / <input type="checkbox"/> PDF / <input type="checkbox"/> ReqIF / <input type="checkbox"/> STEP / <input type="checkbox"/> VEC		

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Müller-BBM VibroAkustik Systeme GmbH with regard to PAK acs.

2.1 CPO Chapter 2.1: Interoperability

APIs have the following standard language bindings:

- **Apache Xerces-C++ version 3.0.1**
- **Boost C++ libraries version 1.39.0**
- **Loki C++ library from SourceForge.net®**
- **TCP**
- **Google® Protocol Buffers**

Remark: If detailed information with regard to bindings are not given (e.g. C++, instead of C++11 (ISO/IEC 14882:2011)), maybe additional clarification efforts arise.

2.2 CPO Chapter 2.2: Infrastructure

Supported platforms (hardware and OS) are:

- **Supported OS: Windows® 7, Windows® 8.1 (64-bit)**
- **Supported Hardware: Windows® based PCs, PAK MKII frontends featuring PAK live technology**

Remark: If detailed information with regard to platforms are not given (e.g. OS Version and Service Pack), maybe additional clarification efforts arise.

2.3 CPO Chapter 2.5: Standards

Supported data exchange formats:

- **CSV**
- **Excel®**

Remark: If detailed information with regard to name and version (e.g. STEP AP 214 (ISO 10303-214:2010)), considered Implementation Guidelines (e.g. CAX-IF Recommended Practices) and potential participation in related Implementor Forums (e.g. CAX-IF) are not given, maybe additional clarification efforts arise.

2.4 CPO Chapter 2.6: Architecture

The IT system's architecture is conforming CPO 2.6

Yes / No

- **The architecture of PAK acs is clearly documented in the embedded user manual of the software. Users have free access to this documentation.**
- **We confirm the following statements:**

The IT architecture comprises the components making up an IT system, the relationships between these components and the way in which they interact and have been integrated.

IT customers can access the individual components so that they can create GUIs (clients) for specific user groups which leverage the capabilities of the different IT systems.

In addition, IT customers can access the individual components so that administration and continued operation of the different layers (e.g. OS, DB, application and client) can be delegated to the appropriate internal organizations.

2.5 CPO Chapter 2.7: Partnership

2.5.1 Data Generated by Users

Data generated by IT users with an IT system is and remains the intellectual property of these IT users, according CPO 2.7.4 **Yes** / No

2.5.2 Partnership Models

Partnership models are offered according CPO 2.7.7 **Yes** / No

Openness of the IT system exists between the IT vendor, the IT service provider and the IT customer. We would provide such a partnership model where necessary. Since the beginning of the PAK family, we are cultivating a close partnership with our customers. These partnerships are stimulating the further product development of PAK acs as well. We are taking into account the requirements of our IT customers for PAK acs.

2.5.3 Support of User and Innovation Groups

Supported groups are:

PAK acs users benefit a support hotline and regular updates.

2.6 Additional Information

Statements concerning CPO Chapter 2.3 “Extensibility” and Chapter 2.4 “Interfaces” can be noted here. For example, statements concerning “Development Environments”, “Third-party Integration”, “Version and Release Compatibility”, possibilities for “Batch Processing” and “Cancellation”.

PAK family members consist of components that are scalable and modular. Over these building blocks interfacing to other 3rd party systems is possible. This ensures also the continuous extensibility of PAK systems.

As PAK acs is based on PAK live technology, it can be extended over the various applicable services and further interacts with any frontend interfacing PAK live technology. Besides the provided default control of PAK acs, users can integrate their own control.

PAK acs can be embedded in customer specific hardware environments seamlessly and interfaces with systems for monitoring and safety.