

CPO Statement of Dassault Systèmes

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	V6 and 3DEXPERIENCE Solutions
Product Version	V6R2013x and 3DEXPERIENCE R2014x and higher
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This CPO Statement was created and published by Dassault Systèmes (3DS) in form of a self-assessment with regard to the CPO.

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Content

1 Executive Summary	3
2 Details of Self-Assessment	4
2.1 Interoperability	4
2.2 Infrastructure	5
2.3 Extensibility	6
2.3.1 Development Environments	6
2.3.2 Third-party Integration	6
2.3.3 Change Request System	6
2.4 Interfaces	7
2.4.1 Interface Documentation	7
2.4.2 Maintenance Information	7
2.4.3 Version and Release Compatibility	7
2.4.4 Availability	7
2.4.5 Batch Processing	8
2.4.6 Cancellation	8
2.5 Standards	9
2.6 Architecture	10
2.7 Partnership, IT customers, IT vendors and IT service providers	11
2.7.1 Data Generated by Users	11
2.7.2 Partnership Models	11
2.7.3 Support of User and Innovation Groups	12

1 Executive Summary

Company Name:	Dassault Systèmes	Contact Person:	Volker Klare
Product Name:	V6R2013x and 3DEXPERIENCE R2014x and higher		
CPO Term	Fulfilled (100%)	Comments because of deviations	
2.1 Interoperability	<input checked="" type="checkbox"/>	Comments: Interfaces may be provided by software partners in certain cases Convergence Path: none	
2.2 Infrastructure	<input checked="" type="checkbox"/>	Comments: n/a Convergence Path: n/a	
2.3 Extensibility	<input checked="" type="checkbox"/>	Comments: 2.3.3 Change request system is in place – feedback is provided according to customer agreement. Convergence Path: none	
2.4 Interfaces	<input checked="" type="checkbox"/>	Comments: n/a Convergence Path: n/a	
2.5 Standards	<input checked="" type="checkbox"/>	Comments: 2.5.4 When interfaces/converters are provided by software development partners, such partners are the partners in the related implementor forums Convergence Path: none	
2.6 Architecture	<input checked="" type="checkbox"/>	Comments: n/a Convergence Path: n/a	
2.7 Partnership	<input checked="" type="checkbox"/>	Comments: 2.7.5 Provided upon IT customer request Convergence Path: none	
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 (JAX-RS/RESTFUL) Other: VBA, VSTA 3D: <input checked="" type="checkbox"/> IGES / <input checked="" type="checkbox"/> JT / <input checked="" type="checkbox"/> STL / <input checked="" type="checkbox"/> STEP <input checked="" type="checkbox"/> VRML DX: <input type="checkbox"/> eCl@ss / <input checked="" type="checkbox"/> FMI / <input type="checkbox"/> IDX / <input type="checkbox"/> PDF / <input checked="" type="checkbox"/> ReqIF / <input checked="" type="checkbox"/> STEP / <input checked="" type="checkbox"/> VEC Others: DXF/DWG, IDF, ELOG, KBL, Modelica, JIS, ANSI, ASME, Several ISO Stds.		

By participating in and signing the CPO, 3DS has demonstrated that, as a company, 3DS takes openness seriously. 3DS continues to support the CPO and documents the compliancy of its selected products with the CPO as part of this published CPO statement.

2 Details of Self-Assessment

The following chapters summarize the results of the CPO-related self-assessment of Dassault Systèmes with regards to the V6 and 3DEXPERIENCE Portfolio (releases V6R2013x and 3DEXPERIENCE R2014x and higher) as described under <http://www.3ds.com/products-services/>. Starting with R2014x the apps are delivered on the 3DEXPERIENCE platform, enabling 3D Design, Engineering, 3D CAD, Modeling, Simulation, Data Management and Process Management.

2.1 Interoperability

The 3DEXPERIENCE Platform is an open architecture that allows real-time design collaboration. Its key innovation is achieved by object-based data management. Real-time design collaboration, or concurrent engineering, significantly improves productivity, ensures data consistency, and protects customers' intellectual property. Data created by customers on 3DS solutions are the customers' asset which can be reused in a consistent way within an authoring application such as CATIA or made available to 3rd party applications.

The 3DEXPERIENCE Platform also strongly enables the development of interoperable solutions. Based on the integration technologies, customers can:

Develop, or have a third party develop customer's own interoperability solutions using xPDM (3DEXPERIENCE Platform strategic integration technology) or an appropriate API license, and/or use commercial interfaces developed pursuant to 3DS's partnership programs with third parties.

An IT system can be integrated into different environments and communicates efficiently with other IT systems:

- 3DS customers can realize integration, on their own or via 3rd parties
- 3DS customers can access their data and exchange it with other IT systems
- 3DS makes available APIs based on standards like Java, C++, Web Services, and provides technical articles and recommended use cases in relevant documentation. If needed, 3DS also provides consulting services to support customer requests.
- 3DS offers appropriate partnership models for third party companies

To support interoperability, 3DS provides interfaces and delivers appropriate information on hardware, software and middleware requirements. This information is part of the Program Directory documented for CAA2 co- and prerequisites. 3DS grants upward compatibility of data and APIs between software releases.

Related information is accessible online for all supported software releases under

<http://www.3ds.com/support/documentation/program-directories/>

Access requires a valid 3DS Passport with userid/password authentication, which can be obtained from 3DS at no cost.

For the 3DEXPERIENCE Platform the latest information available is for the release 3DEXPERIENCE R2015x under <http://media.3ds.com/support/progdir/all/?pdir=3Dexp,r2015x,ga>

2.2 Infrastructure

The 3DEXPERIENCE Platform is a system which can be integrated into and work with multiple IT infrastructure environments such as databases, browsers, operating systems and application servers. The 3DEXPERIENCE Solutions lifecycle is continuously communicated and maintained by 3DS and follows a general policy. Each release of 3DS products is supported on a given IT infrastructure for three years from the date it is made available to the market (one release per year for 3DEXPERIENCE Solutions as of 2014) plus the option to extend by one year: http://media.3ds.com/support/DS_LifeCycleInformation.pdf

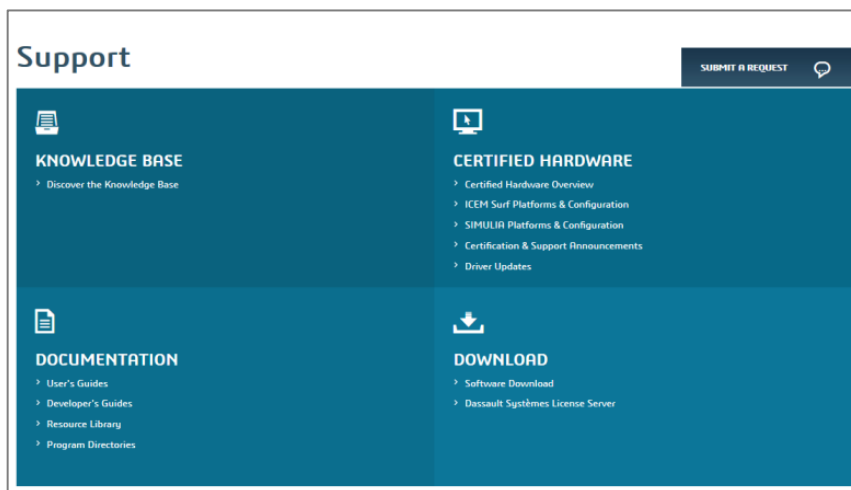
Support planning, policies, certification levels and details of 3DS products operation on IT infrastructures are consistently published as part of 3DS products lifecycle communication on the <http://www.3ds.com> support website, and in 3DS products program directories.

Within the change management process, most changes in support planning result in extensions of support duration. Other enhancements result from changes imposed by providers of the IT infrastructure. To the extent that is compatible with the IT provider's support policy, 3DS publishes changes on 3ds.com.

Windows XP 32-bit Certified Workstation List																	
Partners	Workstations	Processor and Clock Speed	Graphics Adapters	Certification Date	V5R19	V5R20	V5R21	V5R2012	V6R2009	V6R2009x	V6R2010	V6R2010x	V6R2011	V6R2011x	V6R2012	V6R2012x	Notes
Dell	Precision M4600	Intel Quad Core i7 2720QM, up to 2.20 GHz, chipset Intel Mobile QM67 Express	nVidia Quadro 2000M Driver: 275.19	07/11	Yes	Yes	Yes ⁶	Yes ⁶	No	Yes	Yes	Yes	Yes	Yes	Yes ⁶	Yes ⁶	
Dell	Precision Workstation T7500, Precision T3500 and R5500 (derived configuration)	Intel Xeon X5650, up to 2.67 GHz, chipset Intel 5520/5500/X58	nVidia Quadro 5000 Driver: 259.70	05/11	Yes	Yes	Yes ⁶	Yes ⁶	No	Yes	Yes	Yes	Yes	Yes	Yes ⁶	Yes ⁶	
Dell	Precision Workstation T3500	Intel Xeon X5650, up to 2.67 GHz, chipset Intel 5520/5500/X58	nVidia Quadro 5000 Driver: 259.70	05/11	Yes	Yes	Yes ⁶	Yes ⁶	No	Yes	Yes	Yes	Yes	Yes	Yes ⁶	Yes ⁶	
Dell	Precision Workstation T7500, Precision T3500 and R5500 (derived)	Intel Xeon X5650, up to 2.67 GHz, chipset Intel 5520/5500/X58	AMD FirePro V5800 Driver: 8.792	04/11	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

DS SUPPORT PUBLICATION: LIST OF CERTIFIED RICH CLIENT HARDWARE

The 3DS practice is in line with the CPO requirement that an IT system can be integrated into an existing or planned IT infrastructure environment in the long term. In general all 3DS support information is available under <http://www.3ds.com/support>. Access to some of the information requires obtaining a 3DS passport (userid/password) that is provided to 3DS customers and partners free of charge.



3DS Support web page

Supported platforms (hardware) are documented on-line for all 3DS releases under <http://www.3ds.com/support/documentation/program-directories/>

Supported platforms (OS) are selectable interactively for all 3DS releases under <http://www.3ds.com/support/documentation/program-directories/>

Information about certified hardware under

<http://www.3ds.com/support/certified-hardware/>

2.3 Extensibility

2.3.1 Development Environments

Development environments for implementing extensions are conforming CPO 2.3.1 Yes / No

Comments:

IT customers have the option to extend the functionality of an IT system:

The 3DEXPERIENCE Platform is an open system providing a development platform, an integration architecture (CAA2) and an open programming language as part of the automation area. Besides the use of C++, Java is used for Web client programming. Also, the trend to higher aggregated APIs and Web Services continues - both are designed for specific use cases and are optimized for their specific purpose. All APIs are documented in a single encyclopedia. The new 3DDashboard capability also introduces HTML5/CSS3 based UWS/JavaScript interfaces.

2.3.2 Third-party Integration

Third-parties are able to realize extensions according CPO 2.3.2 Yes / No

Comments:

IT customers have the option to extend the functionality of an IT system:

3DS license terms authorize customer to realize or have 3rd parties realize extensions for customer's internal use.

2.3.3 Change Request System

A change request system is provided conforming CPO 2.3.3 Yes / No

Comments:

3DS provides a change request system and feedback to its customer through its support portal under <http://www.3ds.com/support/need-help/contact-support/>. Specific requirements are then handled through the 3DS-PER (Program Enhancement Request) process.

General support such as a knowledgebase, documentation, information about certified hardware and a download area can be reached under <http://www.3ds.com/support/>.

Starting with V6R2009, all V6 and 3DEXPERIENCE releases are fully supported for three years with the option to extend by one year: http://media.3ds.com/support/DS_LifeCycleInformation.pdf. Within this period, all customers benefit from:

- Release upgrades (maintenance deliveries and new release deliveries), which means access to newly delivered capabilities
- Access to an online library of articles, Q&A's and more. This will help to optimize the usage of the system
- Phone and on-line support providing assistance in case of questions (non defects) or software problems (defects)
- Escalation process to manage critical production problems.
- More information can be obtained from <http://www.3ds.com/support-training/>.

2.4 Interfaces

2.4.1 Interface Documentation

Interfaces are documented conforming CPO 2.4.1 Yes / No

Comments:

To satisfy and support our customers' business, 3DS offers in form of an Out-of-the-Box product the integration solution named xPDM.

In addition the 3DEXPERIENCE Platform has a wide range of documented programming interfaces (C++ APIs, Web Services, JAVA APIs) that can be used for customization, automation and integration of customer processes.

IT Interfaces are made available through the Interoperability Solutions:

- xPDM (event bus, APIs)
- RADE (Rapid Application Development Environment)

Technical Articles are provided to detail the documentation explaining the 3DEXPERIENCE Platform concepts necessary for using APIs as well as use cases to document specific scenarios that contain code samples using the APIs allowing customers to easily copy and use the code.

2.4.2 Maintenance Information

Maintenance information are provided one year in advance conforming CPO 2.4.2 Yes / No

Comments:

Maintenance information (such as lifecycle support, API changes) are regularly updated with the announcement of a new release. Information can be retrieved from the websites below or from the release specific Program Directory.

- 1- 3DS Products Releases Support Life Cycle Dates
http://media.3ds.com/support/DS_LifeCycleInformation.pdf
- 2- 3DS Support Lifecycle Policy http://media.3ds.com/support/DS_LifeCycleSupportPolicy.pdf
- 3- 3DS Program Directory for R2015x
<http://media.3ds.com/support/progdir/all/?pdir=3Dexp,r2015x,qa>

2.4.3 Version and Release Compatibility

Version and release compatibility is conforming CPO 2.4.3 Yes / No

Comments:

- 1- Concerning upward and downward release compatibility 3DS offers a set of solutions for transition (upward) and interoperability (upward/downward). Please contact your 3DS representative for more information.
- 2- 3DS endeavors to maximize compatibility between versions and releases of interfaces. As an example, despite the major architecture change, 3DS kept many Version5 APIs in the 3DEXPERIENCE Platform to preserve customer investments.

2.4.4 Availability

IT Interfaces are made available to third-parties conforming CPO 2.4.4 Yes / No

Comments:

The integration of the 3DEXPERIENCE Platform with third-party software has a special significance. 3DS has created a prioritized list of desired software programs which need to be integrated with the 3DEXPERIENCE Platform. Using a defined process and with support from our customers, 3DS executes the third-party vendor certification towards a CAA2 partner level. Just for completeness it is worth mentioning that the majority of the integration options do not require certification of a third-party vendor, because integration with the 3DEXPERIENCE Platform is possible using the proposed standard interfaces

(including STEP, IGES, STL ...), or can be covered by customer in-house solution developments.

2.4.5 Batch Processing

Batch processing and direct interaction is conforming CPO 2.4.5

Yes / No

Comments:

There is no difference in functionality and performance of published 3DS IT interfaces for batch processing and direct interactions.

2.4.6 Cancellation

Announcement of cancellation and follow-up measures are conforming CPO 2.4.6

Yes / No

Comments:

3DS documents the APIs and provides maintenance statements, announces cancellation of interfaces at least one year in advance and provides a suitable migration path.

2.5 Standards

3DS attempts to support a wide range of standards coming from different sources, e.g., ISO, ProSTEP iViP, VDA, and also industry and vendor specific standards.

3DS continues to invest in supporting standards such as STEP, IGES, 3DXML, Modelica and more, as well as forums such as ProSTEP iViP, AFNOR and other bodies that are relevant for the definition of such standards.

Main supported standard formats:

Format	Standard type	3DEXPERIENCE Platform Support	Comments
STEP	ISO		For the exchange of Standard Data and for long term archiving. Support of AP203Ed1, AP203Ed2, AP214 up to Ed3, AP242 Part 21 and XML
IGES	ISO	✓	
VRML	ISO	✓	
STL	Industry standard		Import/export as STL from Digitized Shape Editor Workbench. Used for stereo lithography
DXF/DWG	Proprietary AutoDesk		For 2D Drawings
IDF	Industry standard		For exchange of PCB designs. PCB license CATIA Circuit Board Design or Flexible Circuit Board workbenches.
ELOG (Electrical Logical Systems)	ProSTEP/VDA		CATIA ELS license
KLB (Electrical Harness)	ProSTEP/VDA		Export only: CATIA EFB license
JT	ISO		V1: For visualization (conversion with 3 rd party to/from tessellated CATIA format) as part of vertical integration infrastructure, exact geometry as service project.
Modelica	Modelica.org		For System logical and behavior modeling
FMI	Modelica.org		Functional Mockup Interface - for System Model exchange and Co-Simulation
ReqIF	Omg.org/spec/ReqIF		For requirements exchange
VEC	VDA/ProSTEP		Vehicle Electrical Container
XMPLANT	ISO		Import of plant structure, 3D Part – equipment, attributes
AMF	ISO/ASTM		Additive manufacturing, 3D printing of solid parts and assemblies
IFC	ISO		Exchange format for 3D Civil engineering structures

This list is non-exhaustive. Additional interfaces are provided by brand or industry specific solutions. This information as well as details can be obtained from your 3DS representative.

When interfaces are provided by software development partners, such partners are the partners in the related implementor forums.

2.6 Architecture

The IT system's architecture is conforming CPO 2.6

Yes / No

More information:

The 3DEXPERIENCE Platform is a documented n-tier layered architecture providing client software, applications servers and databases. The customization tools are provided for each layer.

The architecture improves operational efficiency by providing a flexible, modular architecture which is centralized for a Single Source of Truth. It is open to external CAD Tools and enterprise systems and available on premise and on public cloud.

Key concepts include the support of standard web protocols, JEE App Server, a centralized database and distributed file servers.

3DEXPERIENCE Platform Clients include Webtop as well as native clients.

The supported data types should have a dedicated storage for backup, recovery and performance:

- **Metadata** for objects and relationships as well as business logic
- **Content** including 3D representations, streams, office documents, etc.
- **Indexes** to accelerate access to data and geometry



Presentation Tier
What the user sees and does.



Logic and Openness Tier
The logical heart of 3DEXPERIENCE Platform: where the applications run.



Data Tier
Where and how the content is stored.

Access rights and permissions are controlled through the People & Organization (P&O) module that is inspired by ISO 17799.

In summary:

The 3DEXPERIENCE Platform has a clear and documented n-tier architecture (client, applications servers and databases), customization tools are provided for each layer and when appropriate, tiers can be adapted independently from one another.

2.7 Partnership, IT customers, IT vendors and IT service providers

2.7.1 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

3DS respects its customers' and others' IP and expects that its customers, partners, and other market participants are respecting 3DS's IP. Customers' data created with 3DS software can be reused and redistributed using either 3DS or third-party software. Data generated by 3DS customers with our products is and remains their intellectual property.

2.7.2 Partnership Models

Partnership models are offered according CPO 2.7.7 Yes / No

More information:

Partnerships are handled through a multi-level partnership process and can be individually tailored to the requested needs.

Detailed information can be obtained from <http://www.3ds.com/partners/>

Partnership Programs

<p>BUSINESS PARTNERS</p> <p>Dassault Systèmes' Business Partners resell Dassault Systèmes' solution experiences while complementing the offer with valuable professional services such as system integration, customization, consulting, training and implementation.</p>	<p>EDUCATION PARTNERS</p> <p>An extensive network of qualified partners who are committed and devoted to providing the highest quality education services on Dassault Systèmes' solutions.</p>	<p>SOFTWARE PARTNERS</p> <p>Independent software vendors use the Dassault Systèmes' development platform to create and sell software applications. They are complementary add-ons integrated with Dassault Systèmes' portfolio.</p>
<p>SERVICES PARTNERS</p> <p>Through strategic alliances with leading IT systems integrators, consulting firms and services providers, the combined ecosystem of Dassault Systèmes and its partners bring best-in-class competencies.</p>	<p>TECHNOLOGY PARTNERS</p> <p>Providers of hardware platforms and peripheral technology work closely with Dassault Systèmes' labs to ensure system compatibility and create rich solutions for ultimate user experiences.</p>	

3DS partnership programs are aimed to encourage and enable third-party software developers to build commercially-available add-ons to 3DS products, benefiting customers by expanding the PLM functionalities available to the marketplace.

The 3DS partnership program aims

- Establish a framework for the relationship
- Contractual frame
- Including mutual confidentiality and IP respect
- Same Development Platform for Customers and Partners
- Same tools, same API
- Ensure proper support by 3DS and quality
- Training, licenses, development environment and support
- Up-front technical assessment of the partner application to be developed
- Check if the required interactive capabilities and APIs are available
- Define a common roadmap
- Set up a win-win business model between partner and 3DS

2.7.3 Support of User and Innovation Groups

3DS participates in bodies of standard implementor forums like for STEP and adheres to relevant recommended practices and use cases.

In addition 3DS is a supportive member in a variety of different user groups provided by organizations such as

- ProSTEP iViP
- GAAG
- GALIA
- JAMA
- PDES Inc.
- Modelica association
- Modelisar
- Autosar
- CEG
- GSE
- COE
- CAx Group with German AUTO OEMs
- SASIG
- ...