

CastorConnect 2022.x.x

21 CFR Part 11 Assessment of Compliance

Document Version: 2.0

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I. Subpart A - General Provisions

The purpose of this document is to describe Castor Connect's compliance with the Food and Drug Administration's [TITLE 21--FOOD AND DRUGS CHAPTER I--FOOD AND DRUG ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES, PART 11, ELECTRONIC RECORDS; ELECTRONIC SIGNATURES](#)

This document applies to Castor Connect 2022.x as internally developed and tested. Castor Connect has been designed and developed to be in compliance with 21 CFR Part 11, electronics records, electronic signatures and predicate rules when implemented and controlled effectively by the System User. Castor achieves compliance through a combination of risk assessment, SOP adherence, and by establishing a structured validated system. It is however the System User's responsibility to ensure that the software, as provided, is deployed and used in a manner that is compliant with 21 CFR Part 11. The stem includes features such as Security controls through different access permissions, Audit Trails, Electronic Signatures with integrity checks.

Computer systems (including hardware and software), controls, and attendant documentation maintained under this part shall be readily available for, and subject to, FDA inspection.

System Name:	Castor Connect
System Version:	2022.x.x
System Description:	<p>Castor Connect is a mobile application permitting the completion of surveys or ePRO assessments on a participant's own device. Configuration and access to the application is managed via the Castor EDC.</p> <p>Castor EDC is a cloud-based Electronic Data Capture (EDC) solution, enabling researchers to easily capture and integrate data from any source. Castor EDC has its own documentation set and is not the subject of this assessment.</p>

Definitions

Electronic Record – is any combination of text, graphics, data, audio, pictorial, or other information representation in digital form that is created, modified, maintained, archived, retrieved, or distributed by a computer system (refer to 21 CFR Part 11.3(b)(6)). Only records required by an agency regulation (FDA; Food, Drug & Cosmetic Act; or Public Health Services Act) to be maintained for inspection or to be submitted to an agency are considered within the scope of the 21 CFR 11 regulation. Note: a record is not considered to be "created" until it is committed to durable media.

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Electronic Signature – is a digital representation of any symbol or series of symbols executed, adopted, or authorized by an individual to be the legally binding equivalent of the individual’s handwritten signature (refer to 21 CFR Part 11.3(b)(7)). For a signature to be considered an electronic signature under 21 CFR Part 11, it must be executed as the conscious action of the owner with a specific meaning (e.g., approval, release, review).

Computer System – is defined as a configuration of hardware components and associated software designed and assembled to perform a specific function or group of functions. Included in this definition are laboratory instruments, control systems, and computer systems, including hardware, software, peripheral devices, personnel, and documentation; e.g., manuals and Standard Operating Procedures. Third-party application software as well as internally developed application software is also included in this definition.

Regulation Reference – Reference to the specific paragraph in the 21 CFR Part 11 regulations.

System Supplier – Castor system being assessed

System User– Castor’s client, sponsor or CRO using the system being assessed.

II. Subpart B – Electronic Records

1.1 §11.10 Controls for Closed Systems

Persons who use closed systems to create, modify, maintain, or transmit electronic records shall employ procedures and controls designed to ensure the authenticity, integrity, and when appropriate the confidentiality of electronic records, and to ensure that the signer cannot readily repudiate the signed record as not genuine. Such procedures and controls shall include the following:

§11.10(a) Validation of systems to ensure accuracy, reliability, consistent intended performance, and the ability to discern invalid altered records.

System Supplier	System User
Castor validates each release per internal SOPs. The System was developed using industry standard development tools and methodologies and was conforming to GxP requirements. Specific details can be found in the appropriate validation report and test summary report(s) within the product folder.	Users must assure themselves that System Supplier has validated system based on requirements and guidelines when developing and testing the System. Qualification and requalification audits are available upon request based on internal procedures by contacting the Compliance department,

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§11.10 (b) The ability to generate accurate and complete copies of records in both human readable and electronic form suitable for inspection, review, and copying by the agency. Persons should contact the agency if there are any questions regarding the ability of the agency to perform such review and copying of the electronic records.

System Supplier	System User
The System supports the ability to electronically display and print in human readable form all data contained within the system. The successful configuration of survey packages and their submission is recorded to the study audit trail for later review. Archives/exports can be generated for both survey and audit trail data	Responsible for providing copies of records for inspection by the agency.

§11.10 (c) Protection of records to enable their accurate and ready retrieval throughout the records retention period.

System Supplier	System User
For Castor hosted solutions, all data is backed up routinely per established SOPs. Data backups are performed automatically throughout the day. The restore process is tested every 3 months. Castor also follows standards for record retention periods.	Client is responsible for maintaining all study related data and following their own retention policies.

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§11.10 (d) Limiting system access to authorized individuals.

System Supplier	System User
<p>As an application, Castor Connect cannot be used if a user has not been specifically invited to use it. Users must be sent an invitation/authorisation link directly to their provided email address, or offered a unique QR activation code to scan by an appropriate user from within the Castor EDC. Thereafter they must create and use a unique 6 digit PIN and - where possible on the device used by the participant - enable local device security. Local device security, where enabled, will become the participant's default method of access, where not in use the custom PIN entered by the participant will be checked against a registered PIN for the record. In instances where the participant cannot provide a local device security credential, and cannot enter a valid PIN, they will be prevented from accessing the app. Where participants do not have local security configured, and cannot establish an internet connection to successfully verify their custom PIN, they will be prevented from accessing the app.</p> <p>Only authorized individuals are given access to specific clinical studies within Castor EDC. Castor EDC employs role-based user access based on a user's responsibilities within a specific clinical study. The System includes a login mechanism that requires each user to log in with a unique username and password to gain access to the system. Functions such as password requirements are supported by the System. The System servers are housed in a secure, access controlled environment. Only authorized personnel have access to the servers. Castor has SOPs on how to assign system access to authorized personnel.</p>	<p>Castor EDC employs role-based user access based on a user's responsibilities within a specific clinical study.</p> <p>User is responsible for defining users and roles in the system. Should assign permissions based on role for access to different information within the system.</p> <p>Only those with the appropriate permissions are able to invite Castor Connect users - system users are responsible for ensuring only the intended survey recipients are invited.</p>

§11.10 (e) Use of secure, computer-generated, time-stamped audit trails to independently record the date and time of operator entries and actions that create, modify, or delete electronic records. Record changes shall not obscure previously recorded information. Such audit trail documentation shall be retained for a period at least as long as that required for the subject electronic records and shall be available for agency review and copying.

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System Supplier	System User
Castor's CDMS system has a full audit trail for each study, including submitted survey data from Castor Connect. All information including reasons for change (for clinical data changes), date, time, user, old value and new value is captured in the audit trail. The audit trail is retrievable throughout the record's retention period and is available to the agency for review, inspection and copy.	Responsible for ensuring the vendor maintains the data and associated audit trails retained and available.

§11.10 (f) Use of operational system checks to enforce permitted sequencing of steps and events, as appropriate.

System Supplier	System User
The System has been designed to allow the System User to configure workflows that guide the end user through the proper sequence of events.	Responsible for configuring the System appropriately for their intended use.

§11.10 (g) Use of authority checks to ensure that only authorized individuals can use the system, electronically sign a record, access the operation or computer system input or output device, alter a record, or perform the operation at hand.

System Supplier	System User
Only authorized individuals can access and use the system. Castor Connect has been designed to require a unique, short-life authorisation token to gain access, and a unique PIN thereafter and native security thereafter.	Responsible for configuring the System appropriately.

§11.10 (h) Use of device (e.g. terminal) checks to determine, as appropriate, the validity of the source of data input or operational instruction.

System Supplier	System User
Once activated using their unique link/token send to their provided email address, only a user with either the unique user generated PIN or a valid native security credential can access the application. These credentials are validated by Castor's systems and the participant's device respectively.	Responsible for configuring the System appropriately.

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§11.10 (i) Determination that persons who develop, maintain, or use electronic record/electronic signature systems have the education, training, and experience to perform their assigned tasks.

System Supplier	System User
Castor maintains CVs and JDs for staff that develop or maintain the System. They are hired based on education, training and/or experience, and properly trained according to Castor Policies and Procedures. Training records are maintained as per SOP.	It is the responsibility of the company deploying Castor EDC for their clinical trial (e.g. Sponsor, CRO) to ensure that their employees developing, maintaining/administering and using the system have the appropriate training, education and experience.

§11.10 (j) The establishment of, and adherence to, written policies that hold individuals accountable and responsible for actions initiated under their electronic signatures, in order to deter record and signature falsification.

System Supplier	System User
Castor requires users to accept Terms of Use when setting up a new user account for Castor EDC. Acceptance of terms of use and/or participation on the study are the responsibility of system user or study administrator/sponsor	Responsible for ensuring appropriate policies are in place and that compliance with those policies are monitored. Use of Castor Connect and/or the submission of personal or clinical data will be subject to terms of use or consent as provided by the system user or clinical sponsor.

§11.10 (k) Use of appropriate controls over systems documentation including:

§11.10 (k) (1) Adequate controls over the distribution of, access to, and use of documentation for system operation and maintenance.

System Supplier	System User
System documentation can only be accessed by authorized individuals. Castor provides an online resource library and Castor Academy for users to have access to Manuals and User Guides with step-by-step instructions on how to get the most out of Castor systems.	Sponsors are responsible for the creation and maintenance of their own documentation that supports the operation and maintenance of the System.

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§11.10 (k) (2) Revision and change control procedures to maintain an audit trail that documents time-sequenced development and modification of systems documentation.

System Supplier	System User
All documentation is electronically version controlled and any alteration is handled via change controls.	Responsible for the change control documents supporting their production environment.

1.2 §11.30 Controls for open systems

Persons who use open systems to create, modify, maintain, or transmit electronic records shall employ procedures and controls designed to ensure the authenticity, integrity, and as appropriate, the confidentiality of electronic records from the point of their creation to the point of their receipt. Such procedures and controls shall include those identified in § 11.10. as appropriate, and additional measures such as document encryption and use of appropriate digital signature standards to ensure, as necessary under the circumstances, record authenticity, integrity and confidentiality.

System Supplier	System User
<p>Only authorized individuals can access and use the system. Users must use a unique authorisation link to activate the application, and create/use a unique PIN thereafter.</p> <p>Once submitted, participant data is hosted on secure, regularly updated and controlled servers. All hosting platforms are certified for or compliant with relevant certifications (ISO27001, ISO9001) and/or national or international standards (HIPAA, NEN7510). All study data is encrypted at rest via full disk encryption of the relevant disks.</p>	Responsible for configuring the System appropriately.

1.3 §11.50 Signature Manifestation

§11.50 (a) Signed electronic records shall contain information associated with the signing that clearly indicates all of the following:

§11.50 (a) (1) The printed name of the signer; (2) The date and time when the signature was executed; (3) The meaning (such as review, approval, responsibility, or authorship) associated with the signature.

System Supplier	System User
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N/A - there is no electronic signature capability included in the product as of the described release	N/A
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§11.50 (b) The items identified in paragraphs (a)(1), (a)(2), and (a)(3) of this section shall be subject to the same controls as for electronic records and shall be included as part of any human readable form of the electronic record (such as electronic display or printout).

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

1.4 §11.70 Signature/record linking

Electronic signatures and handwritten signatures executed to electronic records shall be linked to their respective electronic records to ensure that the signatures cannot be excised, copied or otherwise transferred to falsify an electronic record by ordinary means.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

2 Subpart C - Electronic Signatures

2.1 §11.100 General requirements

§11.100 (a) Each electronic signature shall be unique to one individual and shall not be reused by, or reassigned to, anyone else.

System Supplier	System User
<p>N/A - there is no electronic signature capability included in the product as of the described release.</p> <p>When integration with Castor EDC exists, Electronic signatures within Castor EDC are uniquely</p>	N/A

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attributable to a single system user based on an individual's unique username and password.	
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§11.100 (b) Before an organization establishes, assigns, certifies, or otherwise sanctions an individual's electronic signature or any element of such electronic signature, the organization shall verify the identity of the individual.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release. When integration with Castor EDC exists, this is the System User's responsibility.	When integration with Castor EDC exists, this is the System User's responsibility.

§11.100 (c) Persons using electronic signatures shall, prior to or at the time of such use, certify to the agency that the electronic signatures in their system, used on or after August 20, 1997 are intended to be the legally binding equivalent of traditional handwritten signatures.

§11.100 (c) (1) The certification shall be submitted in paper form and signed with a traditional handwritten signature, to the Office of Regional Operations (HFC-100), 5600 Fishers Lane, Rockville, MD 20857.

System Supplier	System User
Not applicable. Castor sent letter regarding electronic systems used internally. This is the System User's responsibility.	Castor is not responsible for documenting the identity of system users. Responsibility for this task falls on the company deploying Castor EDC for their clinical trial (e.g. Sponsor, CRO).

§11.100 (c) (2) Persons using electronic signatures shall, upon agency request, provide additional certification or testimony that a specific electronic signature is the legally binding equivalent of the signer's handwritten signature.

System Supplier	System User
Not applicable. Castor is not responsible for this task. This responsibility falls on the company deploying Castor EDC and/or CastorConnect for their clinical trial (e.g. Sponsor, CRO)	Castor is not responsible for this task. This responsibility falls on the company deploying Castor EDC for their clinical trial (e.g. Sponsor, CRO)

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2.2 §11.200 Electronic signature components and controls

§11.200 (a) Electronic signatures that are not based upon biometrics shall:

§11.200 (a) (1) Employ at least two distinct identification components such as an identification code and password.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

§11.200 (a) (1) (i) When an individual executes a series of signings during a single, continuous period of controlled system access, the first signing shall be executed using all electronic signature components: subsequent signings shall execute at least one electronic signature component that is only executable by, and designed to be used only by, the individual.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

§11.200 (a) (1) (ii) When an individual executes one or more signings not performed during a single, continuous period of controlled system access, each signing shall be executed using all of the electronic signature components.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

§11.200 (a) (2) Be used only by their genuine owners.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

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§11.200 (3) Be administered and executed to ensure that attempted use of an individual's electronic signature by anyone other than its genuine owner requires collaboration of two or more individuals.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release	N/A

§11.200 3 (b) Electronic signatures based upon biometrics shall be designed to ensure that they cannot be used by anyone other than their genuine owners.

System Supplier	System User
Castor Connect, as of release 2022.3, relies on local hardware security to validate biometric entry (for example, Face ID and touch ID.) This is in accordance with industry best practice to rely on authentication native entirely to the participant's device to securely validate ownership, rather than a custom solution. As such, only users specifically configured or set up for that device could use biometric or 'native security' to enter the app.	N/A

2.3 §11.300 Controls for identification codes/passwords

Persons who use electronic signatures based upon use of identification codes in combination with passwords shall employ controls to ensure their security and integrity. Such controls shall include:

§11.300 (a) Maintaining the uniqueness of each combined identification code and password, such that no two individuals have the same combination of identification code and password.

System Supplier	System User
N/A - there is no electronic signature capability included in the product as of the described release, and passwords are not used	N/A

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When integration with Castor EDC exists, Electronic signatures within Castor EDC are uniquely attributable to a single system user based on an individual's unique username and password.

§11.300 (b) Ensuring that identification code and password issuances are periodically checked, recalled, or revised (e.g. to cover such events as password aging).

System Supplier	System User
N/A - there is no password function within the application	N/A

§11.300 (c) Following loss management procedures to electronically de-authorize lost, stolen, missing or otherwise potentially compromised tokens, cards, and other devices that bear or generate identification code or password information, and to issue temporary or permanent replacements using suitable rigorous controls.

System Supplier	System User
Subjects can be archived, or otherwise withdrawn from a study to prevent continued submission of data where it is shown that the user submitting data is not the appropriate user.	Responsible for configuring the System appropriately and adopting and enforcing appropriate policies.

§11.300 (d) Use of transaction safeguards to prevent unauthorized use of passwords and/or identification codes, and to detect and report in an immediate and urgent manner any attempts at their unauthorized use to the system security unit, and, as appropriate, to organizational management.

System Supplier	System User
N/A - there is no password function within the application	N/A

§11.300 (e) Initial and periodic testing of devices, such as tokens or cards, that bear or generate identification code or password information to ensure that they function properly and have not been altered in an unauthorized manner.

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System Supplier	System User
Tokens or cards used to generate identification codes or passwords are not utilized by Castor systems	Tokens or cards used to generate identification codes or passwords are not utilized by Castor systems




Revision History

Document Version #	Description of Change	Author	Effective Date
1.0	Initial Release	Christian McGowan	23-MAR-2022
2.0	Revised to incorporate expanded security offering as part of Castor Connect 2022.3	Christian McGowan	12-SEP-2022

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Approval

The signatures below indicate approval of the content of this document.

Product Author	<p>DocuSigned by:</p> <p><i>Christian Devonport-McGowan</i></p> <p> Signer Name: Christian Devonport-McGowan Signing Reason: I am the author of this document Signing Time: 12-Sep-2022 3:36:29 PM CEST</p> <p>D4FC85BBE57B44158F61F2946E773B3C 12-Sep-2022</p>
Name and Title	Christian Devonport-McGowan, Product Owner
QA Approval	<p>DocuSigned by:</p> <p><i>Ben Driesen</i></p> <p> Signer Name: Ben Driesen Signing Reason: I approve this document Signing Time: 26-Sep-2022 3:29:59 PM CEST</p> <p>2EE2C77E7DD94FFC8D17A479F833A09D 26-Sep-2022</p>
Name and Title	Ben Driesen, Manager, QA
Compliance Approval	<p>DocuSigned by:</p> <p><i>Fatma Elfaghi</i></p> <p> Signer Name: Fatma Elfaghi Signing Reason: I approve this document Signing Time: 27-Sep-2022 3:52:53 PM EDT</p> <p>06D97C1F835640F7923003BDA1F2F782 27-Sep-2022</p>
Name and Title	Fatma Elfaghi, Director of Quality & Compliance

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