



Annex 5.1.1 – Technical Specifications

Framework Service Contract for the Provision of Enterprise Content Management services and solutions (ECHA/2011/66)

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1. Overview of the technical specifications

This document is an integral part of the tender documentation for the “Framework Service Contract for the Provision of Enterprise Content Management services and solutions - ECHA/2011/66” (FwC) and details the so-called technical specifications of the tender.

This document is divided into several chapters as follows:

- Chapters 2-4 describe the overview of the required services and the technical context (ECM architecture) for the implementation of the FwC.
- Chapters 5-9 define in detail the specifications for the different types of services to be provided under the FwC.

1.1. Glossary

Term	Definition	Comments or Examples
DEP	Dossier Evaluation Processes	Case management/ workflow application being currently implemented in Documentum
ECHA	European Chemicals Agency	
ECM	Enterprise Content Management	
FwC	Framework Contract	
MSCA	Member State Competent Authority	
PIC	Prior Informed Consent Procedure	
SVHC	Substances of Very High Concern	Case management/ workflow application implemented in Documentum and in production use

Table 1: Glossary

2. Description of services

Due to the fact that the ECM program at ECHA spans a variety of different aspects, the scope of the services requests issued as part of this FwC will be best described as a combination of various “dimensions”:

1. Types of services
2. Functionality areas
3. Architecture

Examples of the use of these dimensions in the context of a service request could be:

- Proof-of-concept (service) of Documentum (architecture) search (functionality) engine
- Maintenance (service) of SVHC application (architecture)
- Analysis and design (services) of migrating ECHA documents from DMS to ECM document management (functionality)
- Installation and configuration (service) of a new version of Documentum Content Server (architecture)
- Day-to-day operations (service) of ECHA ECM external collaboration (functionality) platform

Each individual service request will be detailed with additional information of its technical specifications and other contents and conditions.

Types of services refer to the various types of services that ECHA may procure under this FwC. The Framework Contract consists of the following types of services:

- Projects and application development
- Application support and maintenance
- Platform configuration and operations

The requirements for various types of services are specified in individual chapters later in this document (see chapters 6, 7, and 8, respectively).

Functionality areas refer to the various functionalities that the ECHA ECM solutions are intended to cover. For more information about the functionality areas, please refer to section 3.

Architecture dimension refers to the structure of the conceptual ECHA ECM architecture and the way the architecture should be maintained. The purpose of the architecture is to provide extendable, reusable and service-oriented architecture for ECHA long-term ECM platform. ECHA “owns” the architecture and any architecture decisions will be made by ECHA. For more information about the architecture, please refer to section 4.

3. ECM Functionality Areas

There are various functionality areas for ECHA Enterprise Content Management that needs to be covered by the FwC. These include:

- Case and workflow management
- Document management
- Records management and archiving
- Other content management (e.g. digital asset management)
- Collaboration
- Information search and discovery (e.g. search, feeds, etc.)
- Content storage, backup and migration
- Presentation (user interface) services for ECM
- ECM reporting and business monitoring
- Integration with other systems
- Information security in ECM (e.g. digital rights management, electronic signatures, etc.)

4. ECM Architecture

4.1. Conceptual model of the ECM Architecture

The conceptual model gives an overview on the architectural approach taken within ECHA to implement ECM solutions based on Documentum.

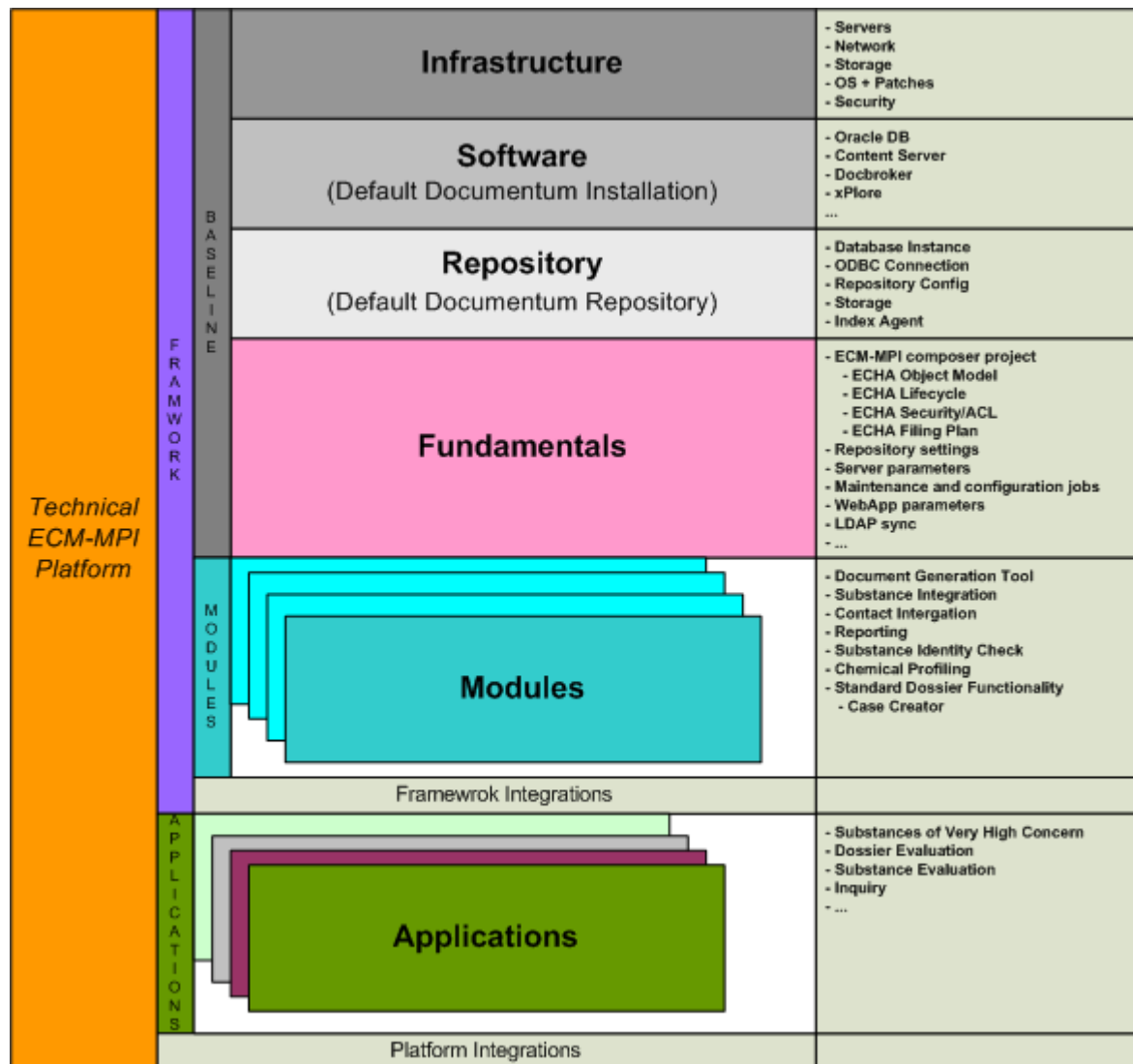


Figure 1: Conceptual Model of the ECM Architecture

The ECHA ECM-MPI platform is a combination of a number of specific applications which share a common framework, currently based on Documentum 6.6.

New applications developed as part of the FwC have to make use of the shared framework. All components that can be re-used will be developed within the framework, and extensibility, reusability and service-orientation are desired architectural quality aspects within the framework. All design decisions taken as part of this FwC shall be consistent with this framework.

This hierarchical structure is the basis of the ECM-MPI platform and to maintain this structure in a consistent way is very important within any of the projects and development activities. From a business perspective, end users only make use of a specific application. This means that the ECM-MPI framework is purely a technical framework to create new applications in a consistent way.

The next sections describe an overview of the different layers.

4.1.1. Framework Baseline

All specific applications make use of the framework that provides a set of common functionalities but also enforce some centralized configurations. The framework exists out of a configured baseline layer with some default Documentum functionalities. Based on this layer extra custom layers are created. These custom layers provide extra functionality within the baseline layer.

The baseline layer is a working and properly configured Documentum platform. The version currently in use in ECHA is 6.6¹. The baseline layer is divided into different layers, with each of them their specific purpose.

- Infrastructure
- Software
- Repository
- Fundamentals

Baseline Infrastructure layer includes the hardware, network, operating system, storage, directory services, email servers, and similar infrastructure services common at ECHA. This layer is maintained by ECHA for all ECHA-hosted Documentum environments.

Baseline Software layer includes the installation and configuration of the basic software components necessary for the ECM-MPI Platform.

Baseline Repository layer provides the basic installation of a repository with the corresponding storage and database.

Baseline Fundamentals layer provides a basic configuration of a repository and all settings on a global perspective, such as:

- Infrastructure connections (e.g. LDAP, Exchange Server)
- Server configuration & Repository configuration
- Basic object types and TBO's
- Overall security settings
- Maintenance jobs
- Tuning e.g. of an application server

4.1.2. Framework Modules

Modules are re-usable, shared components that use the functionality of baseline layer and more specifically the fundamentals layer. They can be considered as extensions of the Fundamentals.

There are different kinds of modules already existing or in the development:

- Business Modules
 - Substance Identity Check
 - Chemical Profiling
- Case Management Modules
 - Reporting
 - Meeting Management
 - Case Creator
- Technical Modules
 - Integrations with other systems
 - Picklist or dynamic value assistance

All Applications have these modules available as part of the framework. This means that an application can be implemented to make use of every single module created within the ECM-MPI platform.

For all projects implemented as part of this FwC, requirements for creation, reuse, extension or adaptation of new or existing modules will be specified as high-level requirements in the service requests.

¹ A first application project in ECHA was based on Documentum 6.5, but ECHA intends to upgrade it to version 6.6 in the course of 2011. All new developments will be based on v. 6.6 initially.

4.1.3. Applications

Applications provide the full spectrum of functionality to the end-users for particular business purposes. Hence, applications within the platform are a set of object types, business rules, processes/workflows, security objects, user interface forms, etc. that are configured and implemented only for that application.

4.2. Methodology and best practices

The implementation and maintenance of the ECHA ECM architecture shall be based on a consistent approach. In addition to the technical software artefacts, this requires a methodological approach based on design, development, configuration and tuning, operations and administration, etc. guidelines, instructions and best practices. These will be defined and created normally as part of the deliverables in service requests (either default or specific deliverable), but in certain cases ECHA may issue a service request specifically directed towards the creation of a particular methodology or guideline.

4.3. Current application and technology architecture

4.3.1. ECM-MPI Application Architecture

ECM-MPI is ECHA Documentum-based platform for process-, case -, document management and other enterprise content management related implementations. Hence, it will consist of a set of applications for specific business needs, but is intended to also provide ECHA-wide generic ECM solutions.

The two first implementation projects with Documentum, SVHC and DEP, are based on Documentum xCP and TaskSpace technologies. Both are case management and workflow applications tackling specific business processes in the ECHA business activities of Risk Management and Evaluation. SVHC is in production use since autumn 2010 and DEP is currently being implemented.

SVHC and particularly DEP have interfaces with other ECHA systems, both business applications and infrastructure applications (e.g. Active Directory, Exchange server). The Figure 2 gives an overview of the application landscape currently.

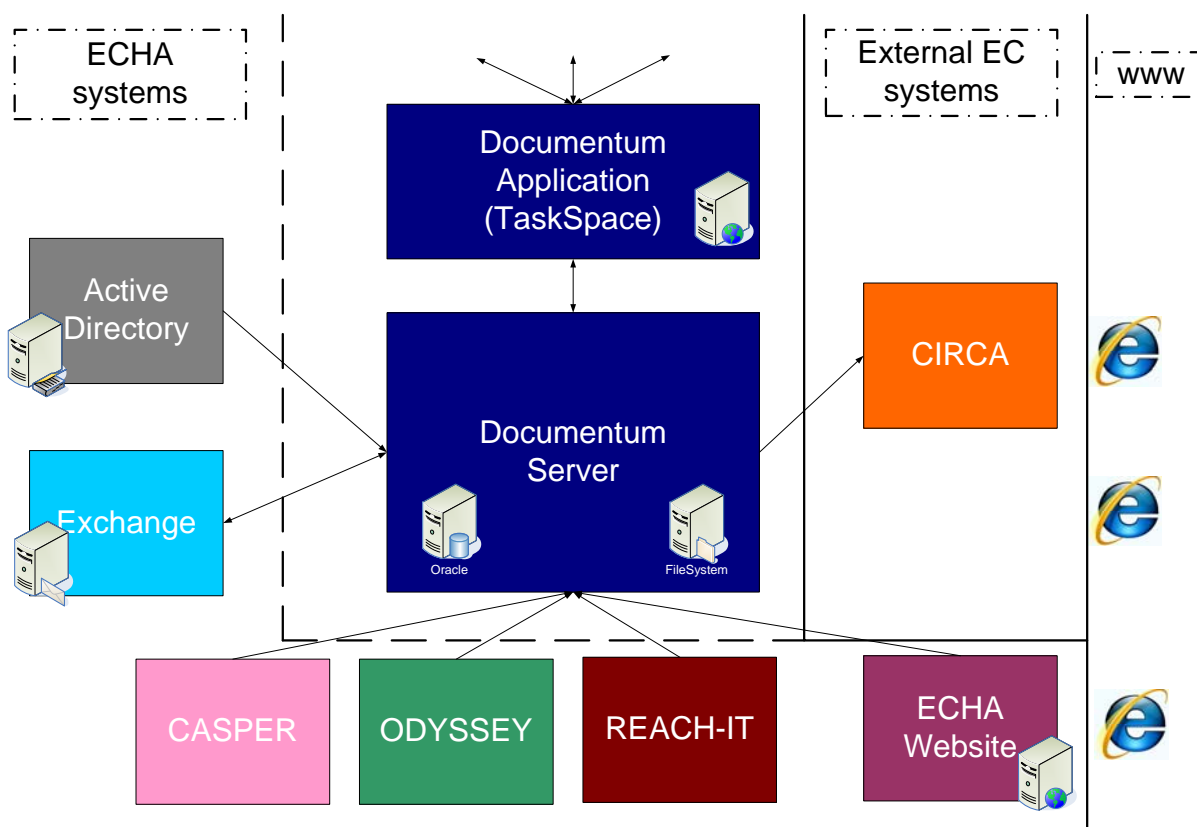


Figure 2: High-level application landscape.

The main business applications the ECM applications interface with are:

- REACH-IT is a main IT system in ECHA and used by the external companies (registrants) to submit data and dossiers on chemical substances to ECHA, and for ECHA to inform the registrants about their dossiers.
- IUCLID (International Uniform Chemical Information Database) is a software application to capture, store, maintain and exchange data on intrinsic and hazard properties of chemical substances. IUCLID plays a central role in the IT environments of all organisations that have to cope with data submission requirements of REACH and other programmes (OECD HPV, EU Biocides and others). At ECHA, IUCLID plays an imperative role in the business processes related to REACH legislation.
- CASPER is a data warehouse/business intelligence application which retrieves selected information related from various applications/databases and processes this information to create additional, higher level information.
- Odyssey is a Support Decision System that enables the standardisation and traceability of the scientific decision making within the Dossier Evaluation Process in ECHA and is being currently implemented to be fully operational. Odyssey is a bespoke Web application providing features that enable to create the reference for scientific content and to have users processing their Evaluations in Odyssey.
- ECHA Website is an Internet facing publicly accessible web application for both publishing and retrieving information.
- CIRCA is extranet tool, developed under the European Commission IDA programme, and tuned towards Public Administrations needs. It enables a given community (e.g. committee, working group, project group etc.) geographically spread across Europe (and beyond) to maintain a private space on the Internet where they can share information, documents, participate in discussion fora and benefit from various other functionalities. At ECHA, CIRCA

is used as a collaboration tool between ECHA and external partners of the European Institutions and MSCAs currently in place. Documentum-based collaboration solution is being considered as the replacement for CIRCA. The integration with CIRCA is purely manual process to transfer content between the two solutions.

In addition, the ECM platform currently interfaces with the auxiliary backend systems, in particular:

- Active Directory for user and group/role management;
- Exchange Server for receiving and sending email.

4.3.2. List of EMC² Documentum software licensed by ECHA

ECHA has currently licences for the following EMC² Documentum server-side software components:

- Documentum Content Server
- Documentum Content Storage Services
- Documentum Content Services for EMC Centera
- Documentum Records Manager
- Documentum IRM Server
- Documentum IRM Services for Documentum
- Documentum Advanced Document Transformation Services
- Trusted Content Services CPU
- Documentum Webtop Federated Search
- My Documentum Offline
- Documentum xCelerated Composition Platform Server
- eRoom Server²

In addition, ECHA has licences for the following Documentum client products:

- Documentum Webtop
- Records Manager Coordinator
- Records Manager Client extension
- Documentum IRM Clients for Documents Bundle
- Documentum IRM Services for eRoom
- Documentum xCelerated Composition Platform WORKER
- Documentum xCelerated Composition Platform Designer

At the moment, not all of the above-mentioned software is used within the ECHA.

Please note that the Contractor can use ECHA's EMC² Documentum licences for the purpose of creating the development and test environment at its premises, i.e. no additional Documentum software licence costs are needed for the company. Also, the yearly maintenance fees of the Documentum software licences will be assumed by ECHA.

Please note that all other software licences (see section 4.3.3) required or used by the Contractor to perform the services at the Contractor's premises as part of this framework contract will have to be provided by the Contractor at no additional cost for the Agency³.

² Note that eRoom licences of ECHA are interchangeable for any other collaboration tool (e.g. CenterStage) of Documentum, if needed. ECHA intends to take advantage this possibility when the collaboration services are implemented.

4.3.3. List of current software versions

For Documentum environments, ECHA uses the following versions:

- Documentum Content Server
 - Documentum Release Version: 6.6.0.041 Linux.Oracle with jboss JMS 4.3.0
 - Documentum Release Version: 6.5.0.342 SP3 Linux.Oracle with jboss JMS 4.2.0
- VMWare ESX Server
 - Version 4.0 in development domain
 - Version 3.5 in production domain
- VMWare Workstation
 - Version 7 in development domain
 - Version 4 in production domain
- Redhat Enterprise Linux (64bit)
 - Version 5.3 in WebLogic layer
 - Version 5.4. in Content Server layer
- Oracle
 - Database – version 11.1.0.7
 - Client – version 11.1.0.7
- WebLogic 10.3.2 (11g)
- Apache 2.0.63
- Java
 - 1.6 (web servers and workstations)
 - 1.5 Content Server for Documentum 6.5 SP3
 - 1.6 Content Server for Documentum 6.6

This list does not necessarily include all components, and is meant to be indicative only. Also the versions may differ from what they are currently.

4.4. Environments and their purpose

ECHA Documentum platform consists of three environments at the moment: Development, Testing and Production. ECHA will continue to host the Production environment and relevant test environments internally. However, the Contractor must setup and maintain the environments for development and testing purposes on its premises based on the ECHA requirements and according to the defined responsibilities with respect to the software testing (see section 6.4). Based on this, the minimum high-level environment needs are as depicted in Figure 3 below.

³ See Article I. 11 of draft Framework Service Contract in Annex 5.2.1

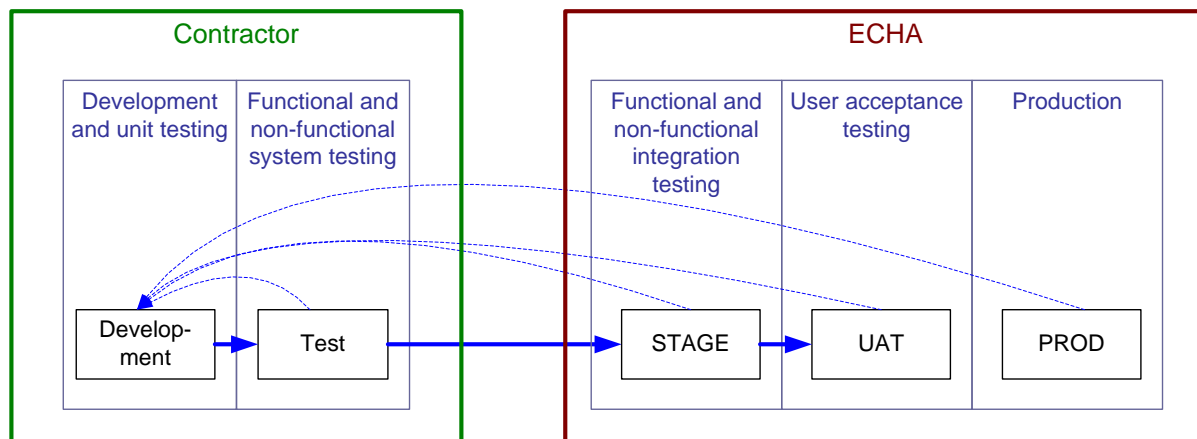


Figure 3: Indicative needs for Contractor vs. ECHA environments and their purpose.

The Contractor is responsible for making sure its environments run on the same Documentum versions as the Agency environments at its own cost. Hence, the Contractor shall

- install patches and service packs for the Documentum environments;
- perform the upgrades (minor and major upgrades) related to the versions of the software installed and keep in line with the upgrade and support cycle imposed by EMC² for the Documentum software.

The upgrades to any of the Agency environments shall normally follow the standard release cycle, i.e. first installed on development, followed by Contractor test, ECHA test, and finally ECHA production, and the activities shall be planned in advance. Only in very exceptional cases, an installation order different from the standard one may be done (such as patching an urgent and critical security hole). All installations are implemented with prior written request from the Agency. During the upgrades to ECHA environments, the Contractor shall help the Agency to resolve any technical problems stemming from the installation of patches or upgrades.

5. Specifications for Teams and resources

It is necessary that the Contractor establishes a proper organisation for the implementation of all service types of the FwC. The requirements for this are described below.

5.1. Management team

A steering group shall be established for the duration of the Framework Contract. The steering group is responsible for overseeing the implementation of the Framework contract and all the related Specific Contracts.

The steering group is represented by both parties and consists of:

- ECHA ECM Programme Executive
- ECHA Framework Contract Manager
- ECHA ECM team leader(s)
- Contractor Framework Contract Manager
- Contractor Project Managers

The Contractor shall provide and nominate the following representatives:

- Framework Contract Manager. S/he is responsible for any contractual issue on the Contractor's side.
- Two (2) Project Managers. The project managers will deal with all day-to-day operative work, project management, liaison with ECHA staff, etc. falling under the execution of the FwC. Project managers' responsibilities shall cover all service types (projects and application development, application support and maintenance, platform configuration and operations). The level of knowledge transfer and collaboration between both Project Managers will guarantee a continuity of services and projects management, even in case of leave or substitution of one of them.

In addition, the Contractor shall appoint a high-level executive for this Framework Contract, in cases where an escalation is needed.

5.2. Technical team

The day-to-day work related to any Specific Contract or Order Form under this FwC will be carried out by the Contractor team and managed by the Contractor Project managers.

The Contractor shall provide the necessary resources to implement the services under this FwC. Every resource provided shall comply with the following profiles. For most profiles, senior and junior levels are defined.

The requirements for the profiles indicated hereafter shall be applicable to all resources involved in the implementation of the Framework Contract. These requirements may be further defined in the service requests for specific contracts.

5.2.1. Requirements for Project Managers (Senior and Junior)

Responsibilities

The Project Managers are responsible for the management of all aspects of ECM Framework Contract services to meet identified business needs, acquiring and utilising the necessary resources and skills, in line with cost, time, and quality criteria. Also acting as the service manager for specific contracts or orders related to end-user support and application maintenance, and platform configurations and operations services.

More specifically, the Project Manager will contribute to the following deliverables:

- Project plans, reports, project management tools.
- Test plans and test reports.

- Project/team resources management.
- Management of the delivery of all project/service deliverables and products.
- Quality assurance.
- Project communications.
- Liaison with ECHA users and other stakeholders.

Qualifications and experience

- At least 5 years of experience as a Project Manager or Programme Manager (Senior).
- At least 3 years of experience as a Project Manager or Programme Manager (Junior).
- At least 3 years of the above must be in relation to Documentum projects (Senior).
- At least 1 year of the above must be in relation to Documentum projects (Junior).
- At least 7 years of overall IT experience (Senior).
- At least 5 years of overall IT experience (Junior).
- At least 1 year of experience working in an international environment.
- The following valid Project management certifications:
 - Must have (Senior) / Preferable (Junior): PRINCE2 Foundation and PRINCE2 Practitioner
 - or**
 - Must have (Senior) / Preferable (Junior): PMP Project Management Professional
- Oral and written English language skills (minimum B2).

Knowledge

The Project Manager must have practical knowledge of the following:

- Project management and team collaboration software (e.g. Microsoft Project, JIRA, Microsoft SharePoint Server)
- Tools used throughout the software development lifecycle
- Software development methods (such as SCRUM, RAD, RUP, Software prototyping)
- Use of software testing tools within projects.

5.2.2. Requirements for Documentum Solution Architect (Senior and Junior)

Responsibilities

Documentum Solution Architect has a strong hands-on experience with a wide range of Documentum products and is proficient with several views of architecture (such as business, information, application, technical, integration, security). Solution Architect, among others, leads the design of the solutions supported by the project tools for configuration management, quality assurance and testing, etc; leads the definition and implementation of Documentum best practices for ECHA ECM solutions; provides assistance in the resolution of technical issues and technical advice in relation to Documentum technology and applications based on Documentum; assists in the definition and implementation of Documentum best practice.

More specifically, Documentum Solution Architect will contribute to the following deliverables:

- Architecture aspects of solution specifications.
- Overall solution design with various architecture views in conjunction with EMC² Documentum.
- Design of for all aspects of solutions, such as workflows, applications, modules, components etc. software artefacts.

- Architecture validation of projects/solutions with regard to the Documentum technology and its use in ECHA
- Creation of proof-of-concepts, prototypes, demos, etc.
- Development options, processes and methods
- Provide technical leadership and guidance to the team members

Qualifications and experience

- At least 5 years of hands-on experience and solid knowledge in the analysis, design, implementation (configuration and development), and testing of Documentum-based business solutions (Senior).
- At least 3 years of hands-on experience and solid knowledge in the analysis, design, implementation (configuration and development), and testing of Documentum-based business solutions (Junior).
- At least 2 years of the above must be with Documentum 6.x or later version.
- At least 7 years of overall IT experience (Senior).
- At least 5 years of overall IT experience (Junior).
- The following valid EMC² Documentum certifications:
 - Must have (Senior and Junior): EMC Proven Associate Credential (EMCPA) for Documentum Content Management / Documentum xCP
 - Must have (Senior) / Preferable (Junior): EMC Proven Specialist Credential for Documentum Content Management / Documentum xCP, EMCTA Technical Architect
 - Preferable (Senior and Junior): EMC Proven Specialist Credential for Documentum Content Management / Documentum xCP, EMCApD Application Developer
 - Preferable (Senior): EMC Proven Specialist Credential for Documentum Content Management / Documentum xCP, EMCSyA System Administrator
- Oral and written English language skills.

Knowledge

The Documentum Solution Architect must have practical knowledge of the following:

- Documentum Content Server
- Documentum Composer
- Documentum Process Builder
- DFC, DFS, DQL
- Documentum Forms Builder
- TaskSpace
- xCP methodology
- Documentum BAM
- J2EE technologies
- XML technologies
- Software development tools (e.g. Eclipse, SVN, Maven, Ant, continuous integration, JIRA)
- Software development methods (such as SCRUM, RAD, RUP, Software prototyping)

5.2.3. Requirements for Business Analyst (Senior and Junior)

Responsibilities

Business Analyst analyses requirements (e.g. business, user, functional, non-functional requirements) for ECM solutions in a form (such as process/workflow models, solution specification documents) understandable for both users and technical persons designing, developing, and maintaining the solutions. As part of the requirements analysis, Business Analyst e.g. conducts and facilitates workshops, helps creating prototypes, collects, reviews and validates business information items (e.g. document templates), validates User Acceptance Testing plans and test data, supports business change management, etc.

Qualifications and experience

- At least 4 years of experience in the business analysis of Enterprise Content Management solutions (Senior).
- At least 2 years of experience in the business analysis of Enterprise Content Management solutions (Junior).
- At least 1 year of the above must in relation with Documentum-based solutions.
- At least 5 years of overall IT experience (Senior).
- At least 3 years of overall IT experience (Junior).
- At least 1 year of experience working in an international environment.
- Preferably a valid ECM certification:
 - Senior: AIIM ECM Practitioner and AIIM ECM Specialist or AIIM ECM Master
 - Junior: AIIM ECM Practitioner
- Oral and written English language skills.

Knowledge

The Business Analyst must have practical knowledge of the following:

- Business Process Model and Notation (BPMN)
- Unified Modeling Language (UML)
- Documentum Composer
- Documentum Process Builder
- xCP methodology
- Software development methods (such as SCRUM, RAD, RUP, Software prototyping)

5.2.4. Requirements for Documentum Application Specialist (Senior and Junior)

Responsibilities

Documentum application specialist works on implementation projects and application maintenance activities based on Documentum tools. Documentum application specialist participates in the design, configuration and development of the ECM solutions supported by the project tools for configuration management, quality assurance and testing, etc. In the more application maintenance-oriented role, Documentum application specialist works on change and feature requests, bug fixes, etc.

More specifically, the Documentum application specialist normally contributes to the following deliverables:

- Configuration, development, integration and testing of solution technical artefacts using Documentum and other tools used in the project
- Implementation of workflow processes.
- Data analysis and data modelling for ECM solutions.
- In collaboration with other team members, participate in and contribute to other project activities such as design, testing, quality assurance and change management.

Qualifications and experience

- At least 4 years of hands-on experience and solid knowledge in the design and implementation (configuration and development) of Documentum-based business solutions (Senior).
- At least 2 years of hands-on experience and solid knowledge in the design and implementation (configuration and development) of Documentum-based business solutions (Junior).
- At least 1 year of the above must be with Documentum 6.5 or later version.
- At least 5 years of overall IT experience (Senior).
- At least 3 years of overall IT experience (Junior).
- Valid EMC² Documentum certification:
 - Must have (Senior) / Preferable (Junior): EMC Proven Associate Credential (EMCPA) for Documentum Content Management / Documentum xCP
 - Preferable (Senior and Junior): EMC Proven Specialist Credential for Documentum Content Management / Documentum xCP, EMCAppD Application Developer
- Oral and written English language skills.

Knowledge

The Documentum application specialist must have practical knowledge of the following:

- Documentum Content Server
- Documentum Composer
- Documentum Process Builder
- DFC, DFS, DQL
- Documentum Forms Builder
- TaskSpace
- xCP methodology
- Documentum BAM
- J2EE technologies
- XML technologies
- Software development tools (e.g. Eclipse, SVN, Maven, Ant, continuous integration, JIRA)
- Software development methods (such as SCRUM, RAD, RUP, Software prototyping)

5.2.5. Requirements for Documentum System Administrator (Senior and Junior)**Responsibilities**

The Documentum system administrator installs, administers monitors and maintains the Documentum platform in different environments to ensure it is stable and operational, and resolves any related issues. Documentum system administrator also supports the technical design and architecture of the Documentum implementations. Documentum system administrator normally also participates in the activities such as Documentum version upgrades, patching and fixing; Documentum system migrations; change management process.

Qualifications and experience

- At least 3 years of hands-on experience and solid knowledge in the administration, and operations of Documentum-based business solutions (Senior).

- At least 1 year of hands-on experience and solid knowledge in the administration, and operations of Documentum-based business solutions (Junior).
- At least 1 year of the above must be with Documentum 6.x or later version.
- At least 5 years of overall IT experience (Senior).
- At least 3 years of overall IT experience (Junior).
- Valid EMC² Documentum certification:
 - Must have (Senior) / Preferable (Junior): EMC Proven Associate Credential (EMCPA) for Documentum Content Management / Documentum xCP
 - Preferable (Senior and Junior): EMC Proven Specialist Credential for Documentum Content Management / Documentum xCP, EMCSyA System Administrator
- Oral and written English language skills.

Knowledge

The Documentum system administrator must have practical knowledge of the following:

- Documentum Content Server
- Documentum Administrator
- Documentum (Headless) Composer
- Installation, configuration and patching of Documentum products
- Administration and operations of Documentum repositories
- Documentum upgrades and migrations

5.2.6. Requirements for Developer (Senior and Junior)

Responsibilities

The Developer produces software artefacts in line with the specifications and quality criteria identified in each individual assignment. The Developer is normally needed for specific needs when a non-Documentum software artefact is required to be developed as part of the overall Documentum platform.

Qualifications and experience

- At least 3 years of overall IT experience (Senior).
- At least 1 year of overall IT experience (Junior).
- Oral and written English language skills.

Knowledge

The Developer must have practical knowledge of the following:

- Java and J2EE technologies
- **or**
- .NET and Microsoft Solutions Framework
- XML
- XSL

5.2.7. Requirements for Test Manager

The Test Manager, among others, prepares, develops and maintains the test plans; manages and coordinates overall test activities and deliverables of the project or solution.

Qualifications and experience

- At least 4 years of hands-on experience related to software testing.
- At least 2 years of experience in managing software testing.
- Valid testing certification:
 - Preferable: ISTQB Framework Foundation Level (CTFL)
 - Preferable: ISTQB Framework Advanced Level (CTAL)
 - Preferable: ISTQB Framework Test Level (CTEL) - Test Management
 - Preferable: ISTQB Framework Test Level (CTEL) - Test Process Improvement
 - Preferable: ISTQB Framework Test Level (CTEL) - Test Automation
- Oral and written English language skills.

Knowledge

The Test Manager must have practical knowledge of the following:

- Software test products and suites (such as HP Quality Centre)
- Tools used throughout the software development lifecycle
- Project management and team collaboration software (e.g. Microsoft Project, JIRA, Microsoft SharePoint Server)
- Software development methods (such as SCRUM, RAD, RUP, Software prototyping)
- Change management processes

5.2.8. Requirements for Tester

Responsibilities

The Tester, among others, defines test plans, test cases; constructs test scenarios and scripts; executes and coordinates the tests; and reports test results.

Qualifications and experience

- At least 1 year of hands-on experience related to software testing.
- Valid testing certification:
 - Preferable: ISTQB Framework Foundation Level (CTFL)
 - Preferable: ISTQB Framework Advanced Level (CTAL)
- Oral and written English language skills.

Knowledge

The Tester must have practical knowledge of the following:

- Software test products and suites (such as HP Quality Centre)

5.2.9. Requirements for Application Support Expert (End-user support)

Responsibilities

The Application support expert provides 1st/2nd line support to the end-users related to the issues, problems, questions about the ECM solutions in use.

Qualifications and experience

- At least 3 years of overall IT experience.
- At least 1 year of hands-on experience and solid knowledge of Documentum.
- Valid EMC² Documentum certification:
 - Preferable: EMC Proven Associate Credential (EMCPA) for Documentum Content Management / Documentum xCP

- Oral and written English language skills.

Knowledge

The Application support expert should have practical knowledge of the following:

- Documentum Content Server
- Documentum Administrator
- Documentum Process Builder
- Documentum Composer
- TaskSpace
- Incident management tools (such as BMC Remedy)

5.2.10. Requirements for Business Change Expert

Responsibilities

The Business change expert provides assistance, support, training, and knowledge transfer to the ECM users on the ECHA ECM solutions, practices, procedures, etc. This may include presentations, newsletters, user manuals and guidelines, trainings, workshops and similar tools of information sharing. The business change expert will help end users to get their job done.

Qualifications and experience

- At least 5 years of overall IT experience.
- At least 3 years of experience in business change management related to the use or adoption of Enterprise Content Management solutions.
- At least 1 year of experience of Documentum.
- Valid EMC² Documentum certification:
 - Preferable: EMC Proven Associate Credential (EMCPA) for Documentum Content Management / Documentum xCP
- At least 1 year of experience working in an international environment.
- Oral and written English language skills.

Knowledge

The Business Change Expert should have practical knowledge of the following:

- Computer-based training tools
- Presentation tools
- Word processing tools
- Audio-visual tools

6. Specifications for Projects and Application developments

In this section, the various aspects necessary for the provision of project services are specified.

6.1. Introduction: Application and project lifecycles

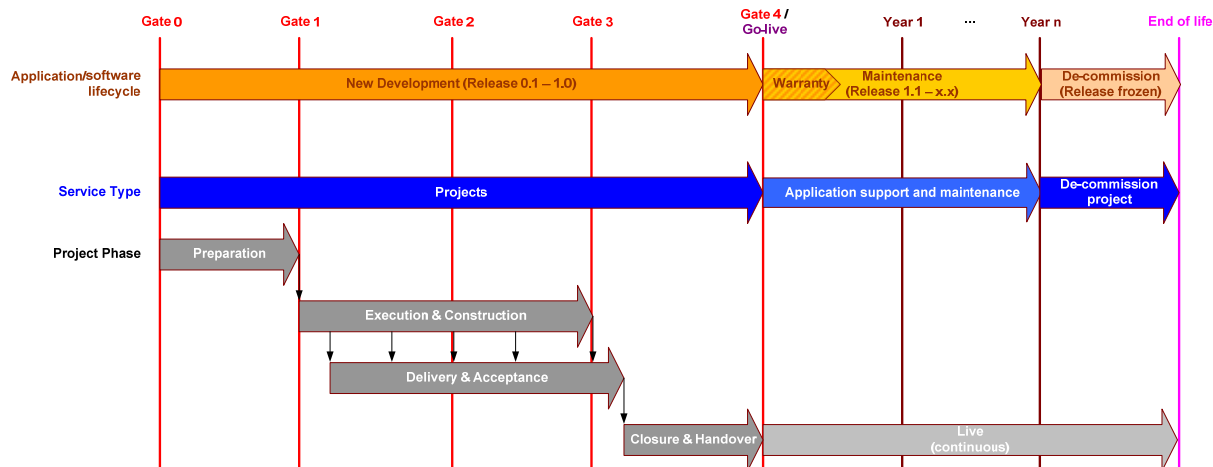


Figure 4: Application and project lifecycles.

From an application/software point-of-view, before anything goes live for the first time, is considered to be new development. Software may be in different releases, but only when it goes live, it is in Release 1.0. Any new development is considered to be project services, and therefore have different project “phases” and including typical project-related activities (e.g. business analysis, design, development, testing).

ECHA project governance is based on PRINCE2. In ECHA governance model, a project is divided into four steps, Preparation, Execution & Construction, Delivery & Acceptance, and Closure & Handover.

In the **Preparation** phase, the purpose is to create a common understanding of the scope and requirements of the software. High level definition of the solution (draft Solution architecture document), a high level Product Breakdown and the drafting of a high-level project plan (so-called Project Master Plan) will need to be created during this phase.

During the **Execution & Construction** phase, the following project controls must be produced and maintained:

- Project plans, including updating of Project Master Plan and definition of shorter execution stages (e.g. for the duration of the specific contract or order).
- Work packages, normally mapped either to Business Requirements or to sub-products of the Product Breakdown. The default work packages are defined
- Risks log to keep track of potential and actual risks that hinder the execution of the project.
- Change management (Configuration Item Record and Change Register).
- Progress and status reporting.

The execution of Work packages that lead to the construction of the project products (project deliverables) form core part of the **Delivery & Acceptance** phase. This phase is typically divided into distinct Delivery Steps where one or more Work packages are completed or iterated.

In the FwC context, the Work packages and the associated deliverables of the Delivery & Acceptance phase will depend on the specific needs and requirements described in service requests or order forms (please refer also to section 6.2.1).

Closure & Handover deals with the closure of the project upon completion of all project products, and ensuring the appropriate hand-over towards user support and IT services.

The project closure shall include a high level lesson learned report (what went well and what went wrong) and suggested the approach for a post project review (stating the quality criteria and metrics that will be used in order to measure the delivered business benefit (e.g. KPIs to be monitored) and suggested the timeframe for such review (e.g. 6 months after entering into production)).

Handover to user support involves, but is not limited to, user documentation (also on line), training, support to use, gathering feed-back and enhancement requests.

Handover to IT services shall cover application services (such as corrective maintenance, users administration, second level technical support to users) and operations services (e.g. application environment and database administration in production). Hence, the handover shall be done in the form of documentation, training, knowledge base, etc. to the relevant service staff.

Note that although such hand-over towards the appropriate services is achieved with the closure of the project (end of the Delivery phase), it is to be considered as an on-going activity that accompanies the entire duration of the Delivery and Acceptance phase.

After the Project phase has been completed, the project is over and the application/software status becomes maintenance. A warranty, as specified in section 3.9 (iii) of the Specifications⁴, will apply to software. For the specification of services relevant during the maintenance phase, please refer to section 7 "Specifications for Application support and maintenance".

6.2. Project methodology

It is necessary that the projects executed under the FwC follow a consistent project management methodology. It is expected that the contractor project management interfaces with the ECHA project methodology, although it is mainly the responsibility of the ECHA project manager(s) to deal with the ECHA internal project governance aspects. The Contractor shall propose a project methodology which is going to be used under the FwC by the Contractor for the execution of the projects.

6.2.1. Default work packages and deliverables during the projects

The typical project will consist of several work packages and have the associated deliverables to be achieved. Based on each service request or order form, the Contractor shall be asked for producing certain work packages and deliverables.

The default work packages and deliverables are as described in the table below. In each service request, the actual requested work packages and related deliverables will be specified.

Work package	Products/deliverables
Pre-analysis	Feasibility study document Vision document
Prototyping	Prototype Proof-of-concept
Business requirements analysis	Functional and non-functional requirements document
Solution specifications	Functional solution specification document High-level system architecture document
Solution design	System architecture design document Related software "skeletons"

⁴ See also Article I.14 of the draft Framework Service Contract in Annex 5.2.1

Development	Built software artefacts (configurations, packages, scripts, etc.) Release notes Installation and deployment manuals/instructions
Quality assurance and testing	See section 6.4 below for details.
Transition to production	Operational documentation, including <ul style="list-style-type: none"> • Operations documents • Administration & housekeeping documents Hand-over to ECHA, including <ul style="list-style-type: none"> • End-user training • Knowledge transfer • Knowledge base Certificate of Acceptance (ECHA) Warranty agreement
De-commissioning	Archived software, data, etc. Un-installation of the software from the systems

Table 2: Default work packages and deliverables.

6.2.2. Project management areas

The contractor is requested to manage the projects under the FwC with the high-level of professionalism and with the consistent approach for all projects. The project management approach applied for the project services shall cover all critical project management areas. These areas include:

- Project resources and cost (financial, human, etc.) management
- Project quality management
- Project scope and schedule management
- Project risk and issue management
- Project change management
- Project progress monitoring
- Project communications management

6.2.3. Project management tools

Project management shall be supported by various tools used for project planning, execution, monitoring, controlling, closing, etc., such as project plans, project schedules, risk lists, action lists, and so on.

6.2.4. Project reports

The Contractor shall provide regular reports to the responsible Project Manager at the Agency, in the layout specified in the Specific Contracts or Order Forms. The frequency of reporting may differ depending on the size and complexity of the service or project and will be stipulated in the Specific Contracts or Order Forms.

The report will include:

- A summary of the activities clearly showing the assignment of tasks to resources over time, including starting and end dates of tasks, task completion percentage, logical relation between the activities, project critical path, milestones, deliverables, delivery dates and budget execution;
- The planned activities for the next reporting period;
- The risks identified and the problems encountered, and their proposed mitigations;
- The values of the quality indicators (Contractor's services will be measured by reference to the quality standards defined at Specific Contract level or order form);
- Lessons learnt (for end-of-project reports).

Project reports, which have been agreed by the Agency's project team, will form part of the deliverables.

6.3. Release management

The software development shall follow a standardised release management process in order to have proper control over the various versions of the applications / software in different environments and states of life cycle. The release management applies throughout the software lifecycle, i.e. from the development of first versions to the end of the software life. A software may be developed in iterative manner and in several releases before it is ready for the final acceptance.

A part of the release management is a proper planning of the releases and release cycles which should be consistent with the overall project planning and test planning schedules. Planning for minor and major release cycles shall be made.

6.4. Software testing

6.4.1. Test approach

Quality of the produced software artefact is an imperative part of the successful delivery of the ECM solutions to ECHA. Only through testing can the Agency verify whether the software delivery can be accepted or not. Therefore, any software developed should be properly tested and delivered with clear documentation and well structured computer source code. Software should initially pass the necessary test phases at the Contractor's side and then at the Agency's side.

Before the Contractor delivers software to the Agency and before starting the Acceptance Testing, the Agency needs to be assured that all tests required by the development cycle have been executed and completed successfully by the Contractor. For this purpose, the Contractor will conduct necessary testing in order for the Agency to be able to verify

- that the software that will be delivered for acceptance meets its specifications;
- that all development activities are completed; and
- that the tests run during the tests passed successfully.

Testing is planned and executed in such a way that the main testing focus is on the most crucial and critical areas.

After the Agency has accepted the results of the tests conducted by the Contractor, the Contractor will be allowed to deliver its software for acceptance. The Contractor shall guarantee the integration of the software deliverables in the target information environment(s).

Standard testing tools (such as HP Quality Center) shall be used to improve the efficiency of testing. The testing tools shall be proposed as part of the "Tools and processes for managing the system lifecycle" (see section 6.5 below).

6.4.2. Test phases and responsibilities

Testing of a solution shall consist of different phases. Key test phases are started and completed according to pre-defined entry/exit criteria that are specified in the (project) test plans. The division of the responsibilities between the Contractor and ECHA are as detailed in Table 3.

Test Phase	Definition	Environment (see also section 4.4)	Responsible
Unit Testing	In unit testing, the internal logic of a particular module or a piece of code is tested in isolation. Unit tests are typically created and executed by the development team. Unit tests facilitate early detection of defects. It is recommended that unit testing is automated. Unit testing requires knowledge of the code. I.e. whitebox testing.	Development	Contractor
Unit Integration Testing	Unit Integration testing is an extension of unit testing where individual modules or units are combined into components or sub-system and the interface between the modules or units is tested. These tests are also typically created and executed by the development team. Stubs and drivers are commonly used in unit integration tests in order to simulate other modules that may not yet be ready for testing. Depending on the need and skill level, test team can also participate in this test phase. Combination of white box and black box testing techniques are used in Unit Integration Testing.	Development	Contractor
System Testing (functional and non-functional)	<p>The objective is to verify by testing whether a system meets the pre-defined functional and non-functional requirements. System is viewed as a black box and testers participating in this testing are not expected to have knowledge of the internal code of the system. System testing is comprised of two parts, functional testing and non-functional testing.</p> <p>In functional testing, the functionality is exercised to verify whether a system meets specified requirements. In non-functional testing, the characteristics of a system such as usability, performance, endurance and security are verified against specified non-functional requirements.</p> <p>System Tests are performed by test specialists.</p>	Test	Contractor
System Integration Testing (functional and non-functional)	<p>System Integration Testing is performed to verify the integration of applications or systems including internal and external interfaces. Tests are typically performed in an integrated test environment that resembles the production environment. System Integration Testing is also comprised of two parts, functional testing and non-functional testing. System to System integration tests that cover specific integrations as well as end to end tests are performed. End to end tests cover all the required integrations in order to verify a set of process flows.</p> <p>System Integration Tests help to verify whether system level components integrate together and also to verify that the correct information is passed between the systems.</p>	Staging	ECHA
User Acceptance Testing (UAT)	UAT is performed by nominated business users who would be using the application in real-life. Separate user acceptance test cases are created or a subset of the System Integration Tests will be executed. Business users will then formally sign-off an application to be deployed to production. The objective is to provide confidence to the users and stakeholders that the application meets their business requirements.	Staging	ECHA

Production Cutover Testing	Production cutover tests are performed by nominated business users to verify that the application has been installed correctly in the production environment and the interfaces are functioning correctly. Separate test cases are created or a small sub-set of the user acceptance tests will be executed. The typical duration of these tests is anywhere between a few hours to few days. In the case of a maintenance patch or change to existing application, the duration is limited by the limits on the service break and could be shorter.	Production	ECHA
Defect re-testing and Regression testing	Part of the above test phases in line with corrections and changes to application	Development/Test	Contractor/ECHA as defined above

Table 3: Test phases and responsibilities.

Re-testing and Regression testing play a key role in maintenance release testing. It is extremely important to do a proper impact analysis to understand the changes/defect fixes. For a minor release, it may not be necessary to execute all formal test phases. Also the corresponding test deliverables need not be produced. For a major release that intends to introduce several critical changes to the application, test effort shall be comprehensive.

Testing is planned carefully at the start of a maintenance release to define the scope, approach and other relevant areas concerning the planned test effort. As needed, new test cases are created and existing test cases are updated. Corresponding test automation scripts are also created or updated.

At the start of test execution, test sets are divided into regression and non-regression tests. Non-regression tests focus on the new features, fixed defects and enhancements. Regression tests focus on likely impact of the changes on other areas of the application.

In some cases, ad-hoc testing may be requested. Ad-hoc testing is done without planning or elaborated documentation. However, any defects found need to be described and logged according to pre-defined defect management processes (refer also to section 6.5).

Before ECHA commences with its own testing, documentation shall be provided to enable the Agency to install and deploy the software on its environments and to perform the testing. This documentation shall include release notes, installation manuals and notes and the Contractor's test deliverables described below.

Even though there will be division of responsibilities, both ECHA and the Contractor need to provide at least some support for test activities that they are not responsible for. For example, even though system testing is the responsibility of the Contractor, they may expect to get requirements-related clarifications from ECHA to finalise their test cases. Similarly, while ECHA is responsible for System Integration Testing, the contractor's support may be needed to complete test execution.

ECHA shall have access to the tenderer's test environment in case ECHA's personnel wants to test the functionality under development to ensure that the specifications have not been misunderstood.

ECHA reserves the right to conduct all tests itself. In addition, the Agency may perform either itself or using an independent 3rd party code reviews and software quality checks at any time in order to additionally verify the necessary quality of the deliverables.

6.4.3. Test deliverables

In addition to the software, the Contractor shall be responsible in providing the following Test Deliverables:

- Test Plans
- Test Cases (functional and non-functional) and scripts
- Consolidated test execution reports including test phase reports
- Test Coverage Reports

- Other deliverables (according to individual Service Requests)

These Test Deliverables are considered to be document deliverables and have to be accepted by the Agency as defined in section 6.6.1.

6.5. Tools and processes for managing the system lifecycle

The Contractor's offer should include the proposal of the processes and related tools to be used between the Contractor and ECHA teams in order to enable management of system lifecycle in an efficient manner taking into account the full life cycle of their need and use in various environments (see section 4.4). The tools and processes shall cover various areas including:

- Management and storage of requirements, specifications and project documentation;
- Management and storage of change requests (i.e. change management);
- The software build process and management and storage of source code, configurations and any related software assets;
- The software test process and management and storage of test plans, test cases and test scripts;
- The software release process and management of software assets, including their transfer to ECHA;
- Issue/defect tracking and management;
- Knowledge base

It is imperative that both the Agency and the Contractor relevant resources have access to the tools. The access to the tools and the information should be based on the properly set access control and secure transfer and storage of data. The confidentiality of the ECHA information must be guaranteed.

The tools must be licensed and hosted by the Contractor. The use of open source products is possible and can be part of the proposal. The proposal should be clear in detailing which tools are used for what purposes and how they are proposed to be used to support integrated approach to manage the system lifecycle.

6.6. Acceptance of deliverables

During the execution of the FwC, the format of possible deliverables can vary considerably and will be specified in the Specific Contracts or Order forms. The deliverables are typically of the two main types:

- Document deliverables. The acceptance procedure for these is defined in section 6.6.1.
- Software deliverables. The acceptance procedure for these is defined in section 6.6.2.

The tenderers are requested to propose any templates that can be used during the execution of the framework contract for the document deliverables, referring in particular to sections 6.2.4, 6.2.1 and 6.4.3.

6.6.1. Acceptance of document deliverables

If not specified otherwise in a Specific Contract or Order Form, when a document is submitted to the Agency for acceptance, a review cycle of T1/T2/T3/T4 will apply, where:

- T1 refers to the number of working days needed by the Agency to review the deliverable and provide the Contractor with comments on the deliverable.
- T2 refers to the number of working days allotted to the Contractor to provide its position to the comments raised by the Agency. This position will be flagged by the Contractor using the following status:
 - "To be implemented";
 - "To be discussed";

- “No action” with the appropriate justification. “No action” refers to comments that do not impose any action to be taken by the Contractor.

Comments for which the position of Contractor is "To be discussed" or for which the Agency does not agree with the given position will be discussed during a review meeting. A meeting decision ("No Action" or "To be implemented") will be made and recorded in the meeting minutes made by the Contractor.

- T3 refers to the number of working days allotted to the Contractor to implement the meeting decisions and release an updated version of the deliverable.
- T4 refers to the number of working days needed by the Agency to verify the correct implementation of the reviewers' remarks.

The Contractor must take into account the expected acceptance time when planning the project deliverables.

The Agency can reject a document by interrupting the review cycle when there is evidence that the quality of the deliverable is too low or when there is evidence that the objective of the document is missed.

No document is accepted by default. When the responsibility of a delay in the review process is clearly identified on the Agency side, the Contractor must alert the Agency. After T4, the Agency will accept the deliverable only when all meeting decisions have been implemented successfully. In any other situation the Agency may reject the deliverable or ask the Contractor to resume from T3.

The default review cycle for a document deliverable is as follows:

- T1: 10 working days;
- T2: 5 working days;
- T3: 5 working days;
- T4: 5 working days.

Following final acceptance, the Agency will issue a Certificate of Acceptance.

The Contractor shall be responsible to maintain the relevant system documentation up-to-date after their acceptance. This is particularly important during the maintenance and operations of the applications, after the initial project has finished.

6.6.2. Acceptance of software deliverables

If not specified otherwise in a Specific Contract or Order Form, the following acceptance procedures will be applicable:

1. Acceptance Testing

Acceptance Testing activities: the Agency will run the test cases specified for the Acceptance Testing. These cases shall be available to the Agency before the start of the Acceptance Testing. The Contractor shall support and provide assistance to the Agency's personnel for the execution of the tests.

Acceptance Testing closure: The Acceptance Testing is under the responsibility of the Agency and may be repeated until the software attains the acceptance criteria.

A technical meeting where the results are presented and discussed marks the end of each Acceptance Testing. Based on the outcome of the tests, the Agency will draft a Acceptance Testing report and decide whether the software under test can be accepted as is or can be accepted with reservations (which will be implemented in future releases of the application) or cannot be accepted. In the latter case, the changes will need to be implemented and a new Acceptance Testing cycle will be planned.

2. Acceptance test pass / fail criteria

Each test shall only have been deemed to be successful if the actual result matches exactly the expected result specified in the acceptance test script document. If this is not the case, the tester will raise an issue and report that the test failed.

Unless specified otherwise in the Specific Contracts or Order Forms, the following number of defects that can be accepted and their criticality shall apply:

- When one critical issue is raised during the Acceptance Testing, the Acceptance Testing may be interrupted and the software may be rejected.
- When more than three major issues are raised during the Acceptance Testing, the Acceptance Testing may be interrupted and the software may be rejected.
- When more than 7 minor issues are raised during the Acceptance Testing, the Acceptance Testing may be interrupted and the software may be rejected.

A **critical issue** is: a defect that prevents the user to use the software for its purpose.

A **major issue** is: a defect that will prevent the user to use one or more functionalities of the software.

A **minor issue** is: a defect that will not prevent the user to use any functionality. However the implementation of the functionality is considered faulty and requires a modification.

3. Decision on Acceptance

The decision of the Agency on acceptance of software is based on the Acceptance Testing report produced by the Agency.

4. Acceptance phases

Provisional acceptance procedure:

During this phase, the procedure defined in point 1 and 2 above is applicable during the course of the project for deliverables under each Specific Contract and Order Form.

Final acceptance:

Although some deliverables may be accepted within a Specific Contract to allow project subsequent steps to be executed, the Agency's aim is to perform a final acceptance of all deliverables as a whole at the end of the project, the rationale being alignment and consistency of all deliverables resulting from further development in subsequent Specific Contracts. While there may be a final subtask acceptance, which would relate to the acceptance of the "beta-version", there would be a subsequent final acceptance at the end of the project. A provisionally accepted deliverable may be rejected during final acceptance of all deliverables. In such case, the "provisional" acceptance procedure must re-apply to the deliverable and if satisfactory, another final acceptance procedure must be called.

If after three attempts at acceptance, the software still fails to meet the terms of the Specific Contract, the Agency shall have the following options:

- To require the Contractor to supply, without charge, a replacement or additional set of Software;
- To accept and retain part of the Software, at a reduced price agreed between the Agency and the Contractor;
- To refuse the software and cancel the Specific Contract on reimbursement of sums unduly paid.

In the case the tests have been satisfactory, the Agency shall deliver a certificate of acceptance that shows the acceptance date and mentions any reservations it may have regarding the services.

After final acceptance a warranty⁵ as specified in the "Specifications" document, paragraph 3.9 (iii) applies.

6.6.3. Audits

The Agency will conduct yearly audits e.g. of the project management and system development practices and methodologies, development and testing environments, delivered software, and system

⁵ See also Article I.14 of the draft Framework Service Contract in Annex 5.2.

documentation with the Contractor, and when necessary, at the Contractor's site. Any findings of the audit must be fixed by the Contractor within two months after the audit report is issued.

6.7. Note on small developments

In certain instances, it may not be relevant that a full-blown project is established, but rather a more streamlined approach is taken. Such cases may arise e.g. for the implementation of a specific architecture framework module or other "small" developments. In these cases, the service request will define what project controls and deliverables are relevant and which deviations from the "defaults" are relevant.

7. Specifications for Application support and maintenance

Once the software is accepted and transferred into production, the warranty provides an initial period for dealing with critical errors in the software. However, for the continuous support, maintenance and operations of the software, additional services are needed. This section deals with the application support and maintenance aspects.

Generally speaking, need for adapting an existing application may take two routes:

1. Changes which are related to the new desired features or functional changes to be implemented (change requests, feature requests). This is typically application maintenance and is described in section 7.1.
2. Errors and defects, which prevent or seriously hinder users to use the application or lead to undesired functionality of the application. Errors and defects shall be escalated to the application support. This is described in section 7.2. This shall be automatically covered under the warranty. After the warranty period expires, the ECHA may still request these services to be provided via separate Specific Contracts.

Specific Contracts requesting this type of services will specify which elements of the architecture will have to be supported and maintained. Generally speaking, the Contractor shall provide all necessary measures to ensure that these elements remain functional.

7.1. Application maintenance

Any change to application/software in production shall go through a formalised maintenance process relying on the change management, release management, testing processes applied in the project context (cf. chapter 6).

Any proposed changes/features will be first evaluated and prioritised. Afterwards, only the agreed changes will be planned for respective releases, implemented and tested.

In the context of this FwC, the Specific Contract for Application maintenance services will typically include work package(s) for a new major release (consisting of one or more minor releases) of one or more applications or modules. Such Specific Contracts may be based on Times and Means, Quoted Times and Means, or Fixed Price.

7.2. Application support

An error, bug, issue etc. encountered in the production system will be escalated to the support process through support lines (1st line, 2nd line, 3rd line). The **First line support** will be provided by ECHA and a tool called BMC Remedy is currently in place for the users to report on the issues encountered. Remedy tickets created by end-users will be analysed by the 1st line support against the Knowledge Base system that shall be created for the purpose (see section 6.5).

Any issue will be analysed whether it is related to:

- Infrastructure. These will be initially dealt with by the relevant (ECHA) infrastructure/operations team (part of the **Second line support**).
- Documentum software. These will be initially dealt with by the (ECHA) Documentum administrators⁶ (part of the **Second line support**).
- Application. These will be initially dealt with by the Contractor, if responsible for the maintenance of the application/module by an existing contract (**Third line support**).

In addition, a severity is given to the issue:

- Urgent – Requires immediate resolution;

⁶ Please note that the Documentum administrator may still be provided by the Contractor as part of the Platform configurations and operations services (see chapter 8).

- High – Requires resolution within a week;
- Medium – Requires resolution within 2 weeks;
- Low – Will be handled as a normal change and dealt with by application maintenance.

The Second line support is responsible for the continuous operation of the environment and initially tries to solve the problems themselves. Only when the Second line support finds no solution, it will contact the Third line support. The Second line support will eventually describe the issue and indicate its severity. The severity of the problem will determine the resolution to be taken. The Third line support may first try to solve the problem by phoning the Second/First line support. If this fails in case of an urgent issue, then the Contractor shall be prepared to send a technician/engineer on the spot immediately.

Any issue escalated to the Contractor shall be recorded and managed in the Contractor's issue management/ticketing system, unless otherwise agreed. Hence, the Contractor shall be prepared to provide such a tool for the execution of the FwC. In addition, the Contractor shall provide means for ECHA support to use the tool for issuing tickets and retrieving resolutions. At the end of the month, the Contractor shall provide ECHA a consolidated report on all the issues handled, their current status and their processing times from the ticketing system.

7.3. End-user support

For additional needs of end-user support, application support expert specialised in end-user support, as well as business change expert resources may be requested by the Agency. The profiles of these are given in sections 5.2.9 and 5.2.10, respectively.

8. Specifications for Platform configuration and operations

Under the FwC, one part of the need of ECHA is for consultancy resources for the configuration and operations of its Documentum environments. These services will be typically done on-site working on the ECHA's Documentum environments, but for future needs, also off-site provision of the services should not be excluded.⁷ In either case, the work consists of tasks relevant for a Documentum System Administrator as described in section 5.2.5.

Service requests for platform configuration and operations services will typically be for a certain amount of man days (i.e. Times and Means) and the Contractor is expected to provide a knowledgeable Documentum resource complying with the profile of Documentum System Administrator (see section 5.2.5) working on-site at ECHA premises and under the supervision of ECHA team leader. In particular cases, the service request may be for specific tasks which may require specific and deeper knowledge of Documentum. In such cases, a profile of a Documentum Solution Architect (see section 5.2.2) may be requested.

⁷ This will depend on the future decisions and technical solutions for allowing remote access to ECHA environments.

9. Handover

At the end of the FwC the following activities are initially foreseen as obligations for the contractor:

- Preparing presentation and training material and giving presentations and training as needed.
- Transfer of the contents of any development time repositories to ECHA, such as issue tracking and contractor test case repositories.
- Set-up of a fully working development environment at ECHA premises.
- Any other activities that are related to knowledge transfer and handover of the development work, covering not only the software and related software assets, but also the development tool chain and the development and test time repositories.

ECHA will define the extent to which this work will be performed.

The following deliverables are initially anticipated during the handover:

- Up-to-date documentation.
- Up-to-date training material.
- Training sessions.
- Fully working development environment at ECHA premises.
- Fully transferred software assets to ECHA.
- Fully transferred contents of the repositories used during development and test time to ECHA (including test plans, test cases, defect reports and test reports).
- Activity reports showing the amount of time worked per task for each day for each person. The activity report is to be delivered weekly.
- Weekly progress reports showing the overall situation of the completed and remaining work.

The following delivery schedule is foreseen for the handover materials:

- Handover deliverables during the last six months of the contract as decided by ECHA.
- First version of the up-to-date documentation ready for review by ECHA latest one month before the end of the contract.
- Activity and progress reports on a weekly basis.

ECHA will have the final decision, previous discussion with the Contractor, on any delivery schedule related issues.