



**EXIN
EPI Data Centre
Management**

CNCDP®

Certified by


Preparation Guide

Edition 202011

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1. Overview

EXIN EPI Certified Network Cabling Design Professional (CNCDP.EN)

Scope

EXIN EPI Certified Network Cabling Design Professional (CNCDP®) is a certification within the EPI Data Centre Training Framework (see Context) that validates a professional's knowledge of, and competences in, the design of a data centre network cabling infrastructure. CNCDP is part of a larger structure of certifications for professionals working in data centres.

Summary

Many enterprises rely on IT for the delivery of business-critical services. It is vital that the mission critical data centre is designed, maintained and operated with high availability and efficiency in mind.

The Certified Network Cabling Design Professional knows the various standards applicable to network cabling systems, is able to design and review network cabling designs and ensure that appropriate and correct installation and testing practices are adhered to.

The job tasks within data centres are described in the EPI Data Centre Competency Framework. The required competences are derived from the job tasks and are related to the exam specifications (DCCF Competence Matrix and Chapter 2 Exam Requirements.)

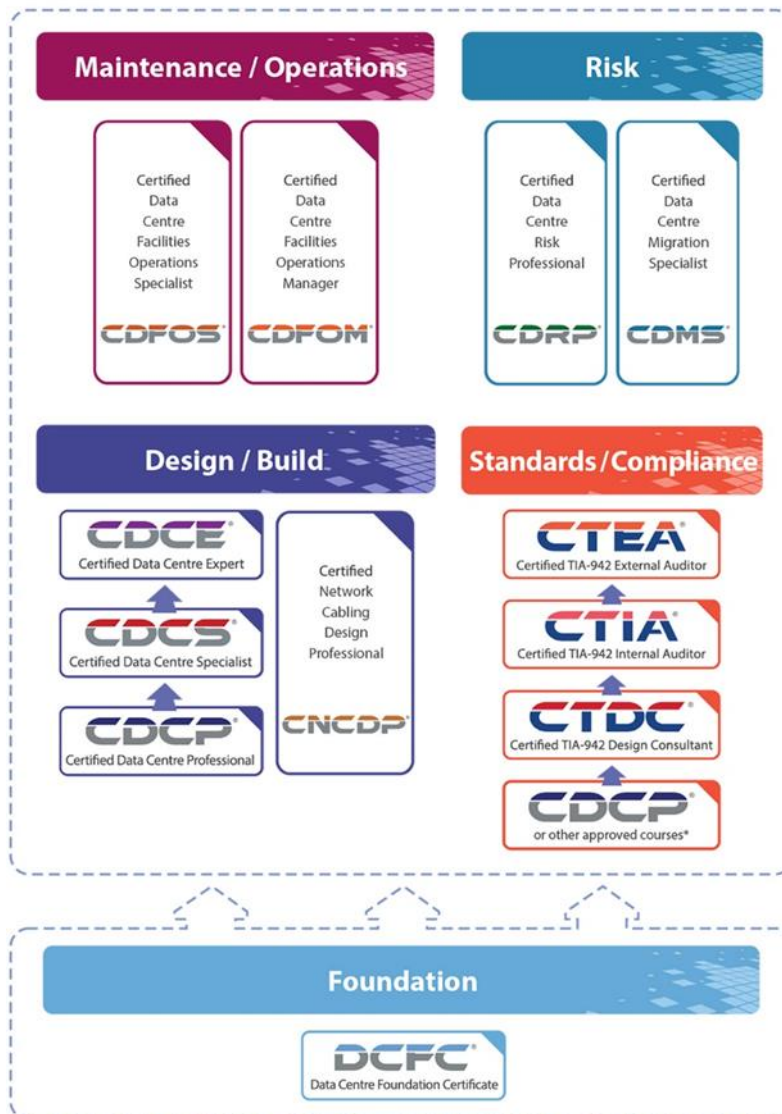
All EPI Data Centre Management certifications have a validity period of 3 years. Technologies change very fast in the industry and in 3 years, certain technologies become obsolete while new technologies have emerged.

Context

The certification Certified Network Cabling Design Professional (CNCDP®) is part of the EXIN EPI data centre qualification program and has been developed in cooperation with EPI (www.epi-ap.com). EPI is the owner of the intellectual property of the course content.



EPI Data Centre Training Framework®



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Target Group

The examination for Certified Network Cabling Design Professional (CNCDP®) is intended for a professional who is:

- working in network cabling system design, implementation and operations
- working in IT, facilities or Data Centre Operations.
- working in and around the data centre.
- responsible for achieving and improving high availability and manageability of the data centre.

Specific data centre roles related to the CNCDP certification¹:

9.01 Data Centre Manager
9.12 Data Centre Design Manager
9.13 Solutions Architect
9.17 Project Manager
9.27 ICT Technology and Network Engineer/ Designer
9.28 Cabling Engineer
9.35 Floor Manager
9.36 Data Centre Engineer

Requirements for Certification

The exam is most suitable for participants with at least two years of work experience in a data centre/facilities and/or network cabling environment.

- Successful completion of the CNCDP® exam.
- Accredited CNCDP® training, including completion of the Practical Assignments.

If the candidate fails the exam three times, it is mandatory to do the training again.

Certification is valid for a period of three years, after which the candidate needs to recertify.

Requirements for Recertification

- A valid certificate of CNCDP®. The expiry date can be found on the certificate.
- Evidence of training of CNCDP® by an EXIN accredited training provider.
(Contact your Training Provider for a discount on recertification training)
- Successful completion of the CNCDP® exam.

Recertification is required for the highest-level certificate the candidate possesses.

Examination Details

Examination type:	Multiple-choice Questions
Number of questions:	40
Pass mark:	68% (27/40 questions)
Open book:	No
Notes:	No
Electronic equipment/aides permitted:	An electronic dictionary is permitted
Exam duration:	60 minutes

The Rules and Regulations for EXIN's examinations apply to this exam.

¹ See EPI Data Centre Competency Framework for the mission, deliverables, main tasks and required competencies in the roles and other possible requirements for the roles. These roles were chosen by representatives from professional practice.

Bloom Level

The EXIN EPI Certified Network Cabling Design Professional certification tests candidates at Bloom Level 1 and 2 according to Bloom's Revised Taxonomy:

- Bloom Level 1: Remembering – relies on recall of information. Candidates will need to absorb, remember, recognize and recall.
- Bloom Level 2: Understanding – a step beyond remembering. Understanding shows that candidates comprehend what is presented and can evaluate how the learning material may be applied in their own environment. This type of questions aims to demonstrate that the candidate is able to organize, compare, interpret and choose the correct description of facts and ideas.

Training

Any training leading to the CNCDP certification must be given by certified trainers. It is expected that the trainer uses a combination of lectures, question-and-answer sessions and exercises, based on the practical assignments. In addition, the trainer must ensure that the candidate fulfils all competence requirements in the practical assignments and the exam specifications in chapter 3 before giving proof of training to a candidate.

Candidates must complete practical assignments and role-playing exercises during the mandatory training by a certified trainer to show their competences as Data Centre Professionals. Factual knowledge is tested in the exam.

Contact Hours

The recommended number of contact hours for this training course is 14. This includes practical assignments, exam preparation and short breaks. This number of hours does not include lunch breaks, homework and the exam.

Indication Study Effort

56 hours (2 ECTS), depending on existing knowledge.

Training Organization

You can find a list of our Accredited Training Organizations at www.exin.com.

2. Exam Requirements

The exam requirements are specified in the exam specifications. The following table lists the topics of the module (exam requirements) and the subtopics (exam specifications).

Exam Requirements	Exam Specifications	Weight
1. Basic Principles and Standards		14%
	1.1 Introduction to Cabling System	14%
2. Design of Cabling Systems		42%
	2.1 Horizontal and Administration – Commercial Building	10%
	2.2 Horizontal and Administration – Data Center	17%
	2.3 Building Backbone – Commercial Building	8%
	2.4 Building Backbone – Data Center	7%
3. Space and Pathway Consideration		18%
	3.1 Architectural Considerations	18%
4. Outdoor Cabling		6%
	4.1 Campus / Outdoor Backbone	6%
5. Installation and Testing		20%
	5.1 Site Inspection and Testing	20%
	Total	100%

Exam Specifications

1 Basic Principles and Standards

1.1 Introduction to Structured Cabling System (SCS)

The candidate can...

- 1.1.1 understand the differential and common mode copper transmission.
- 1.1.2 describe the major characteristics of single and multi-mode fibers.
- 1.1.3 expand the role of cabling standards and major parameters of the standard.
- 1.1.4 describe the major differences of commercial and data centre cabling.
- 1.1.5 describe the major elements of generic cabling system.

2 Design of Cabling Systems

2.1 Horizontal and Administration – Commercial Building

The candidate can...

- 2.1.1 understand how to estimate the user cabling (two methods) .
- 2.1.2 describe the considerations of the administration design.
- 2.1.3 describe the configuration and benefits of cross-connect and inter-connect administration.
- 2.1.4 select the angled and flat patch panels based on pros and cons.

2.2 Horizontal and Administration – Data Centre

The candidate can...

- 2.2.1 describe the TIA-942 Telecommunication components requirements vs. Rated/Rating level, e.g. the redundancy, related standards - including the horizontal cabling related components such as cabling, pathways, patch panels, outlets, etc.
- 2.2.2 understand the pros and cons between traditional 3-levels and spine-and-leaf swTIA-942 recognized media and termination hardware of cabling.
- 2.2.3 describe the pros and cons of pre-terminated cabling.
- 2.2.4 understand the setup, pros and cons of ToR and EoR network model.

2.3 Building Backbone – Commercial Building

The candidate can...

- 2.3.1 describe the backbone functions, model and topology.
- 2.3.2 understand the basic guideline of setting up copper backbone, e.g. per WA (Work Area).
- 2.3.3 select the fiber patch panels.

2.4 Building Backbone – Data Centre

The candidate can...

- 2.4.1 understand the connection principle, pros and cons of ToR and EoR model.
- 2.4.2 understand and select the different fiber termination methods, e.g. Field termination/ Splice/ Pre-termination.
- 2.4.3 describe how the pre-terminated fiber and MPO system can support a future upgrade.

3 Space and Pathway Consideration

3.1 Architectural Considerations

The candidate can...

- 3.1.1 describe the TIA-942 Telecommunication components requirements vs. Rated/Rating level, e.g. the redundancy, related Entrance room, access provider, grounding and bonding, etc.
- 3.1.2 understand the basic facilities and cabling setup of a general telecommunication room.
- 3.1.3 understand the general architecture, e.g. demarcation, types of cabling pathways, grounding and bonding systems.
- 3.1.4 describe the best practice of data and power cabling installation and location.
- 3.1.5 understand the main components and functions of an AIM (Automated Infrastructure Management) from TIA-5048 standard.

4 Outdoor Cabling

4.1 Campus / Outdoor Backbone

The candidate can...

- 4.1.1 understand the pros and cons of different types of outdoor cabling.
- 4.1.2 understand the advantages of different construction of fiber cables.
- 4.1.3 describe the information required for outdoor cabling installation planning.

5 Installation and Testing

5.1 Site Inspection and Testing

The candidate can...

- 5.1.1 understand the benefits of site visual inspection.
- 5.1.2 understand the different copper testing models, e.g. permanent link, channel, MPTL, etc.
- 5.1.3 describe the different polishing construction, pros and cons of fiber connectors, e.g. APC, Flat, PC, etc.
- 5.1.4 understand the installation requirements for fiber panels, e.g. field termination, splicing, etc.
- 5.1.5 describe the components when calculating the fiber loss testing.
- 5.1.6 understand the standard and benefit of the new band-insensitive fiber.
- 5.1.7 understand the Tier 1 and 2 fiber testing, purpose and associated testing tools.

3. Literature

Exam Literature

During the CNCDP® course candidates receive a Student Course Manual. For further information we refer to www.epi-ap.com.



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www.exin.com