



## Certified Data Centre Professional

### Introduction

With few exceptions, enterprises today rely on IT for the delivery of business-critical services - often directly to the end consumer. It is therefore vital that the mission critical Data Centre is designed, maintained and operated with hi-availability and efficiency in mind. Fact is however that most Data Centre's do not meet the full availability, capacity, safety or efficiency requirements often demanded. The ever changing technologies put even more pressure on Data Centre Managers along with the ever faster pace at which these changes are required. On top of that, there is a vast number of companies where the Data Centre is a shared responsibility between the IT and Facilities divisions, each having their own values and standards to which they believe a mission critical site should be designed, maintained and operated. This course will provide anybody involved with Data Centre design, maintenance and operations, valuable lessons which will enable a hi-available, flexible, safe and efficient mission critical Data Centre environment for both new and existing sites.

### Certified Data Centre Courses

There are three levels of certification:

- CDCP<sup>®</sup>: Certified Data Centre Professional
- CDCS<sup>®</sup>: Certified Data Centre Specialist
- CDCE<sup>®</sup>: Certified Data Centre Expert

The Certified Data Centre Professional course is a two-day course designed to expose participants to the key components of the Data Centre. It will address how to setup and improve key aspects such as power, cooling, security, cabling, safety etc. to ensure a hi-available data centre. It will also address key operations and maintenance aspects.

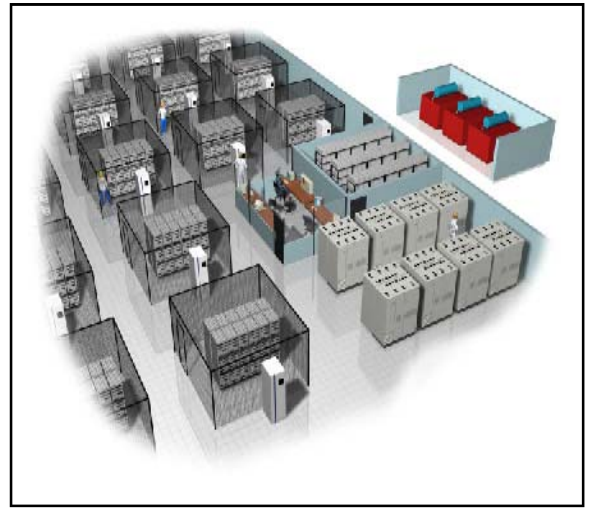
The Certified Data Centre Specialist contains lecture on the theoretical aspects with more depth than the CDCP course including calculations required to ensure a proper Data Centre design. The Expert course is the highest level of training. This is a five-day course which prepares the attendees to be able to scope, design, implement and run a Tier-4 Data Centre.

### Audience

The primary audience for this course is an IT, Facilities or Data Centre Operations professional working in and around the data centre and having responsibility to achieve and improve hi-availability and manageability of the Data Centre.

### Prerequisites

While there are no specific prerequisites for the CDCP<sup>®</sup> course, participants who have at least one to two years of actual working experience in a Data Centre/facilities environment are best suited.



Would you like to join the elite group  
of Certified Data Centre  
Professionals?

World-Wide accredited by:



### Benefits realized

After completion of the course the attendee will be able to:

- Choose an optimum site for mission critical Data Centre's based on current and future needs
- Describe all components important for hi-availability in a Data Centre and how to effectively setup the Data Centre
- Name and apply the various industry standards
- Describe the various technologies for UPS, fire suppression, cooling, monitoring systems, cabling standards etc. and how to choose and apply them effectively to enhance the hi-availability of the Data Centre at minimum cost
- Review the electrical distribution system to avoid costly downtime
- Enhance cooling capabilities and efficiency in the Data Centre by using techniques and technologies including new methodologies for high-power cooling requirements of the future
- Design a highly reliable and scalable network architecture and learn how to ensure installers use proper testing techniques
- Create effective maintenance contracts with equipment suppliers ensuring the best "bang for the buck"
- Setup effective Data Centre monitoring ensuring the right people get the right message
- Ensure proper security measures, both process and technical are in place safeguarding your companies precious information in the data centre
- And much much more...

## The Trainer

This course will be delivered by a Data Centre veteran with many years of experience in designing and auditing of Data Centre's world wide.

With many audits performed world-wide you can be assured that the trainer has done it all and seen it all and provides excellent practical experience and insights in what works and what doesn't work when it comes to setting up, maintaining and running mission critical sites.

## Delivery Structure

This is an instructor-led course that uses a combination of presentation lectures and question and answer sessions to discuss attendees specific needs and issues experienced in their own environment. Attendees are able to tap on the trainer's extensive experience to solve practical problems in their current environment adding tremendous value.

## Course Syllabus

### Day 1

- **The Data Centre, its Importance and causes for downtime**
- **Data Centre Standards and best practices**
- **Data Centre location, building and construction**
  - Selecting appropriate sites and buildings and how avoid pitfalls
  - Various components of an effective data centre and supporting facilities setup
- **Raised Floor/Suspended Ceiling**
  - Applicable Standards
  - Uniform, Concentrated and Rolling load definitions
  - Signal Reference Grid, Grounding of Racks
  - Disability act and regulations
  - Suspended ceiling usage and requirements
- **Light**
  - Standards
  - Light fixtures types and placement
  - Emergency light, EPS
- **Power infrastructure**
  - Power infrastructure layout from generation to rack level
  - ATS and STS systems
  - Redundancy levels and techniques
  - Three phase and single phase usage
  - Power distribution option within the computer room
  - Power cabling versus Bus Bar Trunking
  - Bonding versus Grounding, Isolation Transformers and Common Mode Noise
  - Form factors and IP-Protection grades
  - Power Quality guidelines
  - Real Power versus apparent power
  - How to size and calculate load in the Data Centre
  - Generators
  - Static and Dynamic UPS systems and criteria to use the correct one for the correct application
  - Battery types and making the right selection and testing
  - Thermo-graphics
- **Electro Magnetic Fields**
  - Sources of EMF
  - Electrical fields and Magnetic fields definitions
  - Effects of EMF of human health and equipment
  - TEMPEST and (H)EMP
  - Standards
  - EMF Shielding solutions

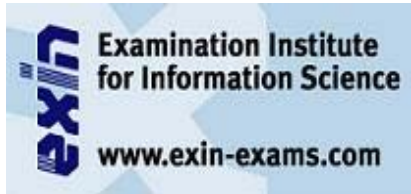
### Day 2

- **Cooling infrastructure**
  - Cooling trends and requirements for now and the future
  - Cooling units and conversion rates
  - Sensible and latent heat definitions
  - Difference between Comfort and Precision cooling and its impact on energy efficiency
  - Overview of different air conditioner techniques
  - Techniques to increase effectiveness and efficiency of cooling in the computer room
  - High density cooling techniques and common mistakes
- **Water Supply**
  - Importance of water supply and application areas
  - Backup water supply techniques
- **Designing a Scalable Network Infrastructure**
  - Cabling Hierarchy
  - Cable Characteristics
  - Determining Connectivity Requirements
  - Network Redundancy
  - Building-to-Building Connectivity
  - Recommended Installation Practices
  - Testing and Verifying Structured Cabling
  - Network Monitoring System requirements
- **Fire suppression**
  - Standards for Fire Suppression
  - Detection systems
  - Various fire suppression techniques and systems, their benefits and disadvantages
  - Signage and safety
  - Regulatory requirements and best practices
  - How to ensure that your fire suppression is working
- **Data Centre monitoring**
  - Data Centre monitoring requirements
  - EMS versus BMS
  - Water leak detection systems
  - Notification options and considerations
- **Operational Security and Safety Practices**
  - Data Centre security layers
  - Physical, infrastructure and organizational security
  - Safety measures and essential Signage
- **Labeling**
  - Choosing a labeling scheme
  - Recommended Labeling Practices
  - Network labeling
- **Documentation**
  - How to setup proper documentation
  - Document management policies and procedures
- **Cleaning**
  - Cleaning practices for the Data Centre
- **MTBF/MTTR**
  - Standards and definitions
  - Calculation models
  - The "real" value
- **Maintenance Contracts / SLA / OLA**
- **Mock Exam**
- **EXAM: Certified Data Centre Professional**

## Certification & Accreditation

Certification exams papers can be taken in paper based format at the end of the last day of the course, or online via an authorised training partner, depending on the country in which the course is delivered. The exam is a one hour, 40 questions, multiple choice, closed book exam. Results of the exam will be communicated to the attendee within four weeks following the examination. Attendees who successfully pass the exam will receive the official "Certified Data Centre Professional" Certificate.

CDCP® is a world-wide recognized certificate accredited and administered by the **Examination Institute for Information Science (EXIN)**.



EXIN, is a global, independent and not for profit examination provider. EXIN's mission is to improve the quality of the IT and Data Centre sectors, the proficiency of IT and Data Centre professionals and the IT users, by means of independent testing and certification. EXIN offers candidates the opportunity to take examinations at a time and place of their choice. Every day, EXIN examinations are taken in more than 125 countries on six continents, and in more than 15 languages.

In the USA (United States of America), the course is accredited and administered by ICOR.



ICOR is a not-for-profit education and credentialing organization that provides professional development, certification, thought-leadership, and the latest in research and industry trends in the area of organizational resilience.

## EPI's Data Centre Certification Roadmap

EPI offers four courses (depicted below) that deal with the critical components of design, implementation, operations & optimization and retiring of a mission critical Data Centre:



- Certified Data Centre Professional
- Certified Data Centre Specialist
- Certified Data Centre Expert
- Certified Data Centre Facility Operations Manager

### Recommended Next Course

To further extend your skills in the Data Centre design arena, we recommend the Certified Data Centre Specialist course.

CDFOM® is also highly recommended. This is a standalone course which builds upon knowledge gained in CDCP which addresses the operational aspects of running a Data Centre.


For a full course outline of these course, visit our website at [www.epi-ap.com](http://www.epi-ap.com) or [www.epi-training.com](http://www.epi-training.com)

### CDCS: Certified Data Centre Specialist

A 3-day course designed to expose participants to the key elements involved in design and setup of a Data Centre. This course will build upon the knowledge gained in CDCP. In CDCS more details will be revealed allowing you to review designs of existing and/or future Data Centre's. Various calculations will be explained which allows you to verify in detail the proposed solutions by external vendors to ensure they meet your design criteria. Special attention will also be given to the important aspects of equipment selection and how it should be installed to ensure optimum performance, efficiency and reliability. CDCS is a 'must have' course for those who are expected to manage or be involved in a Data Centre build or renovation project.

### Authorised Reseller/Partner:

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