



## 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 high-availability and efficiency in mind. However, the fact is most data centres do not meet the full availability, capacity, safety or efficiency requirements that are often demanded. The ever-changing technologies put even more pressure on data centre managers along with the faster pace at which these changes are required.

The CDCP<sup>®</sup> 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 high-available data centre. It will also address key operations and maintenance aspects.

### Roadmap



### Audience

The primary audience for this course is any IT, facilities or data centre professional who works in and around the data centre and who has the responsibility to achieve and improve the availability and manageability of the data centre.

### Prerequisites

There is no specific prerequisite for the CDCP<sup>®</sup> course. However, participants who already have at least one or two years' experience in a data centre or facilities environment may be best suited. Those with no experience just yet are most welcome to participate.

### Global Accreditation & Recognition



### Course Benefits ✓

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

- ✓ Choose an optimum site for mission-critical data centre based on current and future needs
- ✓ Describe all components that are important for high-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 to select and apply them effectively to cost-efficiently enhance the high-availability of the data centre.
- ✓ Review the electrical distribution system to avoid costly downtime
- ✓ Enhance cooling capabilities and efficiency in the data centre by using existing and new techniques and technologies for the increased cooling requirements of the future
- ✓ Design a highly reliable and scalable network architecture and learn how to ensure installers apply proper testing techniques
- ✓ Create effective maintenance contracts with equipment suppliers ensuring the best return on investment
- ✓ Setup effective data centre monitoring ensuring the right people get the right message
- ✓ Ensure proper security measures, both procedural and technical, are established to safeguard your company's valuable information in the data centre

- **The Data Centre, it's Importance and Causes for Downtime**
- **Data Centre Standards and Best Practices**
- **Data Centre Location, Building and Construction**
  - Selecting appropriate sites and buildings and how to avoid pitfalls
  - Various components of an effective data centre and supporting facilities setup
- **Raised Floor/Suspended Ceiling**
  - Uniform, concentrated and rolling load definitions
  - Applicable standards
  - Raised floor guidelines
  - Signal Reference Grid, grounding of racks
  - Disability act and regulations
  - Suspended ceiling usage and requirements
- **Light**
  - Standards
  - Light fixture types and placement
  - Emergency lighting, Emergency Power Supply (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 options within the computer room
  - Power cabling versus bus bar trunking
  - Bonding versus grounding
  - Common Mode Noise and isolation transformers
  - Distribution boards, 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, selection criteria, how they operate and energy efficiency option
  - Battery types, correct selection and testing
  - Thermo-graphics
- **Electro Magnetic Fields**
  - Electrical fields and magnetic fields definitions and units of measurements
  - Sources of EMF
  - Effects of EMF on human health and equipment
  - (H)EMP
  - Standards
  - EMF shielding solutions
- **Equipment Racks**
  - Rack standards, properties and selection criteria
  - Security considerations
  - Power rail/strip options
- **Cooling Infrastructure**
  - Temperature and humidity recommendations
  - Cooling measurement units and conversion rates
  - Sensible and latent heat definitions
  - Differences between comfort and precision cooling
  - Overview of different air conditioner technologies
  - Raised floor versus non-raised floor cooling
  - Placement of air conditioner units and limitations to be observed
  - Supplemental cooling options
  - Cold aisle/hot aisle containment
- **Water Supply**
  - Importance of water supply and application areas
  - Backup water supply techniques
- **Designing a Scalable Network Infrastructure**
  - The importance of a Structured Cabling System
  - Planning considerations
  - Copper and Fiber cable technology and standards
  - ANSI/TIA-942 Cabling hierarchy and recommendations
  - Testing and verification
  - SAN storage cabling
  - Network redundancy
  - Building-to-building connectivity
  - Network monitoring system requirements
- **Fire Suppression**
  - Standards for fire suppression
  - Detection systems
  - Various total flooding fire suppression techniques and systems, their benefits and disadvantages
  - Handheld extinguishers
  - Signage and safety
  - Regulatory requirements and best practices
- **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 organisational security
  - Safety measures and essential signage
- **Labelling**
  - Choosing a labelling scheme
  - Recommended labelling practices
  - Network labelling
- **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**
- **EXAM: Certified Data Centre Professional**



## Delivery structure

EPI courses are lectured by EPI Certified Instructor. CDCP® is an instructor-led course that uses a combination of lectures and question-and-answer sessions, to discuss participants' specific needs and issues experienced in their own environment. Participants are able to tap into the trainer's extensive experience to enable them to solve practical problems in their current environment, thus adding tremendous value.

## Examination

Certification exam is administered at the end of the last training day by an authorised training partner, either using paper-based or online format. The exam is a 60-minute closed book exam, with 40 multiple-choice questions. The candidate requires a minimum of 27 correct answers to pass the exam. Online exam results are known immediately and paper-based exam results will be known within one week.

## Certification

Candidates who successfully pass the exam will receive the official 'Certified Data Centre Professional' certificate. The certification is valid for three years after which the student needs to re-certify. More information is available on the EPI corporate website at [www.epi-ap.com](http://www.epi-ap.com).

## Global Accreditation & Recognition

The CDCP® course material and exam are globally accredited by EXIN.

EXIN is a world leading provider of independent certification and accreditation in the IT and data centre sectors. EXIN is ISO-certified (ISO 9001:2008). Operating according to ISO 17024, ISO 27001 and EN 45011, EXIN continuously monitor the quality of exams and accreditations. More than 2 million professionals have been certified by EXIN worldwide. Candidates can take an EXIN exam in more than 125 countries and in more than 20 languages.

BICSI recognises CDCP® – Certified Data Centre Professional training for BICSI Continuing Education Credits (CECs). CDCP® certificate holder will gain 13 CECs for all BICSI credentials.

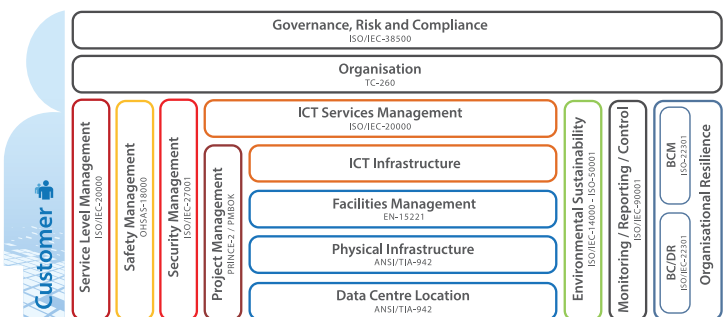
## Recommended next course

To further extend your skills, we recommend the CDFOM® and CDCS® courses. CDFOM® addresses the full operational aspect of running a high-available data centre. In CDCS®, participants will gain advanced knowledge to review designs of existing and/or future data centres. CDCS® is a 'must have' course for those who are expected to manage or be involved in a data centre build or renovation project. For full course outlines, visit the EPI website, [www.epi-ap.com](http://www.epi-ap.com).

## Course schedule

Our courses are available in over 50 countries across all continents. For a comprehensive course schedule, visit the EPI corporate website at [www.epi-ap.com](http://www.epi-ap.com) or contact your local authorised reseller/partner.

## EPI Data Centre Framework®



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The EPI Data Centre Framework® provides data centre investors/owners/operators with a data centre ecosystem addressing all disciplines of a structured and fully managed data centre. The EPI Data Centre Framework® addresses not only the site selection, design and outfitting of its physical facilities but it also includes the governance and all processes required to organise and operate a data centre which meets the business requirements of its customers. It is the foundation for the design and development of all of EPI's data centre services and training programmes. For more information visit [www.epi-ap.com](http://www.epi-ap.com).



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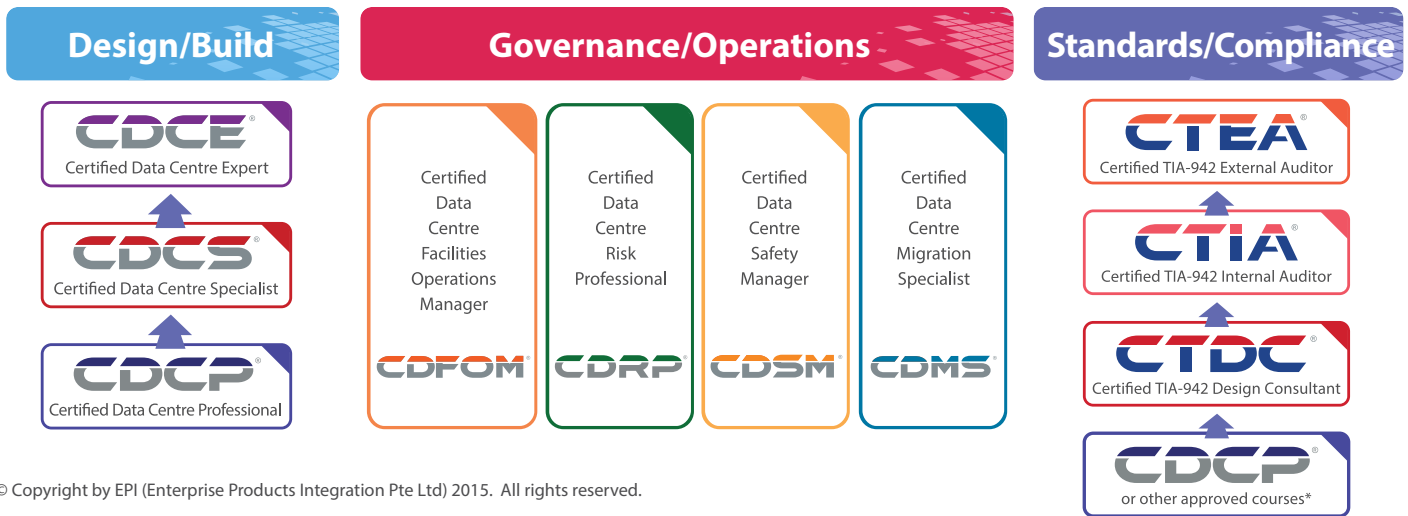
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## EPI Data Centre Training Framework®



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The **EPI Data Centre Training Framework®** provides a structured course curriculum for individuals working in and around data centre facilities and data centre operational management. It addresses the various disciplines required to design and manage a high-availability, efficient data centre. EPI's data centre course curriculum is not only the first in the world, it is also by far the largest in the industry. Many companies have specified these courses as prerequisites for their staff working in and around the data centre and use them as part of their career planning initiatives. Recognised globally, these certifications add value to both companies and individuals.

## The Company

EPI is a company of European origin operating world-wide in over 50 countries through direct operations and a large partner network. EPI offers an extensive range of data centre services on consultancy, auditing, certification and training. EPI's focus is on mission-critical, high-availability environments. Established in 1987, EPI has developed an international reputation for delivering high quality technical expertise, with flexible and innovative solutions, techniques and methodologies.

All our services are aimed at helping our customers to:

- Increase **Availability** of their mission-critical infrastructure
- Improve **Efficiency, Effectiveness** and **Manageability**
- **Minimise risk** of business interruption

Our Clients share a common need to protect their valuable data, run their mission-critical infrastructure efficiently and to be protected on a 24 x 7 basis. By protecting the interests of our customers, EPI is committed to an intensive program of comprehensive services development backed by engineering and support excellence.

Quality Systems and Procedures have always been at the heart of every stage of our service delivery to ensure consistent and high quality services. We are known for our thoroughness, flexibility and responsiveness in our project management. We focus on providing solutions that fit each organisation and each project with a drive to deliver quality on time, every time.

*Let us put our expertise to work for you!*

## Data Centre Services

### Consultation

- Data Centre Design Validation
- Data Centre Design Evaluation
- Data Centre Review/  
Independent Second Opinion

### Audit & Certification

- ANSI/TIA-942
- SS507
- ISO/IEC-27001
- ISO/IEC-20000
- DCOS®

### Professional Training & Certifications

- CDCP®, CDCS®, CDCE®,  
CDFOM®, CDRP®, CDMS®,  
CTDC®, CTIA®, CTEA®,  
CITP®, CITS®, CITE®

### Frameworks

- DCF® - Data Centre Framework
- DCCF® - Data Centre Competence Framework
- DCTF® - Data Centre Training Framework

### Standard

- DCOS® - Data Centre Operations Standard

