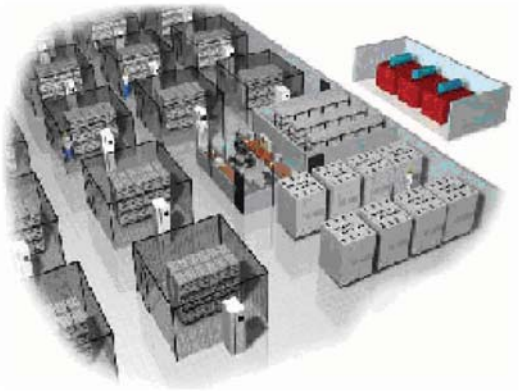
Certified Data Centre Professional (CDCP) V1.3



Course Introduction

There are three levels of certification for Mission Critical Site facilities management

- CDCP: Certified Data Centre Professional
- CDCS: Certified Data Centre Specialist
- CDCE: 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 is a three-day course which contains lecture on the theoretical aspects with more depth than the CDCP course including practical sessions in which attendees need to evaluate a design/data centre and present the key findings.

Certified Data Centre Expert 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.

Who Should Attend

The primary audience for this course is an IT, Facilities and/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. This would include functions such as IT department head, IT/Data Centre operations manager or engineer etc.

Prerequisites

While there are no specific prerequisites for the CDCP course, participants who have at least one/two year(s) of actual working experience in a data centre/facilities environment are best suited.

Certification

Certification exams will be administered at the end of the last day of the course. The exam is a one-hour, 40 questions, closed book exam. Results of the exam pass/fail will be communicated to the attendee within two weeks after the examination. Attendees who pass the exam will receive the official "Certified Data Centre Professional"

Course Objectives

After completing this course the student should be able to:

- Choose an optimum site for mission critical data centres 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 and manage it
- 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
- Create a robust 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
- Describe the various IT-Service management standards, best practices and processes and how to effectively use them leading to increased efficiency of operations whilst minimizing risk of downtime caused by change

Course Outline

Day 1: Mission Critical Data Centre Physics:

Data Centre Standards and best practices

- Data Centre standards and sub-standards

Building construction

- Various components of an effective data centre and supporting facilities
- Selecting appropriate sites and how avoid pitfalls

Raised Floor/Suspended Ceiling

- Standards
- Uniform versus point loading and calculations

Power infrastructure

- Power infrastructure layout from generation to rack level
- Redundancy levels and techniques
- Bonding versus Grounding
- Power distribution within the data centre
- Distribution boards
- Form factors and IP-Protection grades
- Real Power versus apparent power, how to calculate load in Data centre
- Nine common power disturbances and the cause
- UPS technologies and making right choice for the data centre and other applications
- Various Battery technologies available and monitoring systems
- Thermo-graphics

Electro Magnetic Fields

- Sources of EMF
- Effects of EMF on equipment
- Effects of EMF of human health and safety
- Tempest
- (H)EMP
- Standards
- Solutions for protection against EMF/TEMPEST/EMP

Cooling infrastructure

- Cooling requirements now and future
- Techniques to increase effectiveness and efficiency of cooling in existing data centre
- Techniques and technologies to cool future data centres

Light

- Standards

Designing a Scalable Network Infrastructure

- Cabling Hierarchy
- Cable Characteristics
- Storage Area Networks (SANs)
- Determining Connectivity Requirements
- Network Redundancy
- Networking Room
- Common Termination Options
- Building-to-Building Connectivity
- Recommended Installation Practices
- Testing and Verifying Structured Cabling

Fire suppression

- Standards for Fire Suppression
- Various fire suppression techniques and systems, their benefits and disadvantages
- How to ensure that your fire suppression is working

Day 2: **Mission Critical Data Centre Operations:**

Data Centre monitoring

- Monitoring requirements
- Remote monitoring and control of the data centre

Operational Security and Safety Practices

- Various Security systems
- Security policies and practices
- Safety measures
- Essential Signage

Labeling

- Choosing a Numbering Scheme
- Recommended Labeling Practices

Documentation

- How to setup proper documentation
- How to maintain

Cleaning

- Cleaning practices for the data centre

MTBF/MTTR

- Standards and definitions
- Calculation models
- The "real" value

Maintenance Contracts / OLA

- IT service management based on ITIL/BS15000/ISO-20000
- History of IT-Service Management
- Standards and best practices
- An overview on ITIL® /BS15000/ISO-20000
- How to achieve certification