

Open Compute Project (OCP) Awareness Course

1 DAY 🕒



Learn the fundamentals of Open Compute and its transformational and future disruptive impacts on traditional enterprise data centres. Come away with a holistic perspective of Open Compute. (In-house courses available for large organisations.)

Learning Outcomes

- Understand the background of the Open Compute Project (OCP) and why it began
- Identify challenges faced when growing to hyper scale data centres
- Recognise how OCP applies to data center capital expenditure and operational expenditure
- Discuss key elements of OCP including; energy efficiency, simplicity and vanity servers
- Identify how to help prepare for, and ease the migration to OCP
- Apply best practices of transforming data centres from traditional enterprise to OCP



5 reasons to choose our courses:

- 1** Courses aligned to international standards
- 2** Expert instructors with over 10 years experience
- 3** Interactive learning experience
- 4** Blended learning solutions (classroom and online)
- 5** Specialist career progression tracks for advanced learning

Who should attend?

- IT Manager
- M&E Consultant
- HVAC Engineer
- Data Center Architect
- Facility Manager
- Project Manager
- Data Center Owner/Operator
- Technicians
- Operations Manager
- OFM Suppliers

Price - £495 | €695 | \$745

Professional Development Hrs	7
Exam	1 hour, open book
Pre-requisites	None (although completion of our foundation level 'Data Center Design Awareness' course is recommended)
Suggested Progression	Data Center Specialist Design or Data Center Specialist Operations

Endorsed by The Open Compute Project Foundation



Course Content



OCP Background

- History
- Why it started
- Problems growing to hyper scale data centres
- Energy efficiency
- Simplicity
- Capital expenditure
- Operational expenditure
- Vanity servers
- OCP Foundation
- OCP Projects

OCP Data Centre Technology

- Data centre building architecture
- Data halls space planning and cluster grids
- Electrical
- Mechanical
- Cooling
- Battery cabinets
- Open triplet racks
- Network structured cabling physical topology and cabling support systems
- Centralised Main Distribution Frames

OCP Network Technology

- Open switch
- Wedge & 6-pack
- Ethernet switch speeds interfacings and matrix non blocking leaf and spine topologies
- Software Defined Networks and switch microservers.
- Interoperability testing and types of certifications.

OCP Server Technology

- Servers v.1 and v.2
- Server variants and
- Server functions. e.g. Compute node and Head node
- Open Server rack layouts and changes to EIA rack widths and rack unit heights
- Server interfacing for power and communications
- Fan variants and efficiencies with 60 mm and 80mm diameter fans
- CPU socket variants
- Power supplies for AC and DC inputs
- Mother boards and mezzanine boards for Ethernet
- Airflow management through servers and component orientation optimisation
- Server manufactures and OCP server adaption for 19inch racks
- Compatibility with open rack versions 1 & 2

OCP Server Technology (cont)

- Standard rack configuration types (Matrix of CPU, Memory, Disk, Services)
 - I WEB
 - II Database
 - IV Hadoop
 - V Haystack
 - VI Feed
 - VII Cold store

OCP Storage Technology

- Open Vault
- Relationships between HDD shelf stacking and Open Rack dimensions
- Storage types
- Manufacturer's OCP submissions. e.g. Seagate Kinetic IP addressable HDD

OCP Hardware Management & Metrics

- Hardware Management
- BMS (Building Management Systems) including IP gateways onto Ethernet wired LAN
- DCIM (Data Centre Information Management) including Facebook & CA partnership solutions.
- Metrics from PUE, WUE to How many user pages per sec can be served.
- SDN (Software Defined Networking)
- Openstack
- Operating systems

OCP disruptive impacts for enterprise data centres – course rolling workshop

- Case studies and team workshops transforming data centres from traditional enterprise to OCP
- Focussing on the lessons that can be learnt now to help prepare for and ease the migration to OCP
- Use of OCP Bridging Racks
- Data halls space planning
- Incorporating broad set of data centre subsystems and how best to integrate them
 - Building and structures
 - Space planning Internal and external
 - ME&P
 - Data halls
 - Racks
 - Network
 - Compute
 - Storage
 - Support structures
 - Cable containment

