

# Test Design Document

## NCP-AIDC Infrastructure

### Target Candidate Audience

*Who are the intended, potential candidates for this credential? (For example, “Adults with high school diplomas seeking to distinguish themselves in the field of XXX” or “Nurses, physicians, or doctors who want to perform <some job role> in <some jurisdiction>” or “Experienced network administrators seeking to demonstrate advanced knowledge of <some software/hardware/platform>”.)*

Network engineer  
System Admins  
Network Admins  
Storage Admins  
Infrastructure admins  
Data Center Admin  
Solutions Architect

### Description of the Minimally Qualified Candidate (MQC)

*The MQC is a conceptualization of the candidate who has the minimum competencies (i.e., knowledge, skills, and abilities) to just meet the expectations of a credentialed individual. The MQC is the borderline candidate who just barely qualifies—yet qualifies—to earn the credential. This candidate achieves the minimum score required on the exam to earn the credential. (Example 1: The Minimally Qualified Candidate (MQC) is either a systems administrator or junior engineer with 24–36 months of holistic IT infrastructure experience. The candidate should be able to configure, deploy, maintain, troubleshoot, secure, and manage infrastructure and services. Example 2: To protect the health, safety, and welfare of the public, a newly licensed <<professional>> practicing independently must demonstrate the competence to be responsible for a project from its inception through completion. This includes, but is not limited to, the ability to...)*

*The Minimally Qualified Candidate (MQC) is an IT professional with typically 2-3 years of operational experience working in a data center with NVIDIA hardware solutions. The candidate should be able to monitor and manage all the parts of a data center infrastructure in support of AI workloads.*

# Test Design Document

## Working Description of the MQC

Question	Response
What tasks should <i>all</i> MQCs be able to do without assistance?	<ul style="list-style-type: none"><li>• Perform configurations of devices</li><li>• Infrastructure code</li><li>• Produce a detailed data center design</li><li>• Perform physical installations</li></ul> Employ specific solution tools (e.g., Kubernetes) <ul style="list-style-type: none"><li>• GPU monitoring</li><li>• Explain the minimum requirements for network and storage specifics</li><li>• Troubleshoot hardware</li><li>• Hardware selection for a particular workflow</li></ul>
What tasks should be considered <i>below</i> the knowledge, skills, and ability level of all MQCs? (All MQCs should be able to perform these tasks [i.e., the task is too basic to assess on this exam].)	<ul style="list-style-type: none"><li>• Describe relevant NVIDIA technologies and deployment models (e.g., on-prem vs. cloud)</li><li>• Use basic vocabulary/terminology</li><li>• Describe NVIDIA resources</li><li>• Recognize accelerated data center use cases: e.g.<ul style="list-style-type: none"><li>○ Explain what kind of networking exists in a HPC environment<ul style="list-style-type: none"><li>▪ Explain the difference between Infiniband and ethernet</li></ul></li><li>○ Purpose and use cases for HPC and AI platform deployments</li></ul></li><li>• Describe common networking infrastructures/solutions that better support GPU deployments</li><li>• Differentiate between GPU architectures<ul style="list-style-type: none"><li>○ Ampere, Turing, Volta</li><li>○ Architectural differentiators for specific GPUs</li><li>○ Compare/contrast GPUs with CPUs</li><li>○ Recommend the correct solution for the correct use case</li></ul></li></ul> Describe the latest range of GPUs (within a timeframe that corresponds to exam redevelopment lifecycle)

# Test Design Document

Question	Response
What tasks should be considered beyond the knowledge, skills, and abilities of <i>all</i> MQCs? (Some MQCs may be able to perform the task, but it is not expected at this level [e.g., the task may be too advanced or too specialized for an MQC])	<ul style="list-style-type: none"><li>• Calculate the required infrastructure</li><li>• Design architecture for a particular use case</li></ul>
With what tools should <i>all</i> MQCs be familiar?	<ul style="list-style-type: none"><li>• IB and Ethernet</li><li>• DGX</li></ul>
In which environments (e.g., types of virtual or in-person environments or practice types) should <i>all</i> MQCs be comfortable?	<ul style="list-style-type: none"><li>• On prem</li><li>• Hybrid</li><li>• Public Cloud</li></ul>
What related tasks (e.g., content) are off-limits for assessing on this credential? (For example, a certification exam for a bicycle mechanic would likely not assess one's ability to ride a bicycle.) (If not applicable, enter "NA".)	<ul style="list-style-type: none"><li>• Knowledge of 3<sup>rd</sup> party infrastructure solutions</li></ul>