ISF Readiness Assessment

The ISF readiness assessment is developed using existing practice exams for A+, Network+, and Server+ certification exams. These certifications were identified by the ISF editorial team as prerequisite for the ISF course.

The readiness assessment was developed by curating questions derived from examcompass practice tests (https://www.examcompass.com/). Each question in the assessment is mapped to A+, Network+, and Server+ learning objectives using a structured and repeatable process as follows:

**Step 1:** Topics for each A+, Network+, and Server+ learning objectives are identified from CompTIA’s course syllabus. The topics provide keywords to evaluate questions from various practice tests.

Here are a few Network+ learning objectives with associated topics. To perform keyword analysis, the topics are referred to as tags in the table below.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>LEARNING OBJECTIVE</th>
<th>TAG1</th>
<th>TAG2</th>
<th>TAG3</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>Compare and contrast the use of networking services</td>
<td>Network controllers</td>
<td>RADIUS</td>
<td>RAS</td>
</tr>
<tr>
<td></td>
<td>and applications</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Differentiate between common network topologies</td>
<td>Peer-to-peer</td>
<td>Client-server</td>
<td>Hybrid</td>
</tr>
<tr>
<td>10</td>
<td>Differentiate between network infrastructure</td>
<td>ICS</td>
<td>LAN</td>
<td>MAN</td>
</tr>
<tr>
<td></td>
<td>implementations</td>
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</tbody>
</table>

**Step 2:** Noun phrases from each practice question are extracted using a automated Natural Language Processing (NLP) tool: SEMAFOR (http://demo.ark.cs.cmu.edu/parse).

Following is a question from a Network+ practice test on examcompass:

*The advantages of the client-server model over peer-to-peer networking model include:*
  (Select 3 answers)
  (A) Higher level of security (correct)
  (B) Easier administration (correct)
  (C) Higher level of redundancy
  (D) Lower cost
  (E) Improved performance (correct)

Upon analyzing the text of this question in SEMAFOR the noun phrases obtained are:

*client-server model, and peer-to-peer networking model.*

**Step 3:** The nouns in step 2 are compared with the topics in step 1 to discover an appropriate match. If a question originates in an Network+ practice exam, then it is matched with learning objectives in Network+ only.
For our running example, the noun phrase identified by SEMAFOR in Step 2 match the “Peer-to-peer” tag of Learning Objective 09 in Step 1. Hence, this question is mapped to Learning Objective 09 from Network+.

**Step 4:** The question is restructured as a two-level response format multiple choice question. It allows the assessment to capture correctness and confidence dimensions of a response.

The previous question is reframed as follows with a two-level response format:

*Which of the following is a disadvantage of the client-server model over peer-to-peer networking model?*

(A) Higher level of security  
(B) Easier administration  
(C) Higher level of redundancy (correct)  
(D) Improved performance

<table>
<thead>
<tr>
<th>Choose one of the following answers</th>
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</thead>
<tbody>
<tr>
<td>A (Not confident at all)</td>
</tr>
<tr>
<td>A (Slightly confident)</td>
</tr>
<tr>
<td>A (Somewhat confident)</td>
</tr>
<tr>
<td>A (Confident)</td>
</tr>
<tr>
<td>A (Very confident)</td>
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</tbody>
</table>

**Step 5:** From the pool of all questions for a learning objective, at least three (less if fewer questions are available) are selected to be in the assessment.

**Step 6:** An ISF module designer, chooses the learning objectives from A+, Network+ and Server+ that are most relevant as prerequisites for the ISF module being designed. Questions related to those learning objectives are extracted to develop a specific readiness assessment for a particular ISF module.

For example, for a network scanning module, the following Network+ LOs were identified as prerequisites by the instructional designer.

LO 2, 5, 7, 9, 10, 13, 15, 16, 17, 18, 19, 21, 25, 26, 28, 33, 34, 37, 39, 41
Step 7: Questions in the readiness assessment are grouped into topics to provide a learner scorecard at the end of the assessment.

For example, the readiness assessment for network scanning ISF module includes the following topics for reporting student performance at the end of the assessment:

- Network Ports (10)
- Network Protocols (12)
- Attack Types (3)
- Network Components (4)
- Basic Networking Commands (2)
- Network Addressing (8)
- Network Architectures (9)
- AAA (3)
- Windows Security Features (3)
- Server Configuration (6)

Total 60 Questions.