

Troubleshooting Cisco Wireless Enterprise Networks (300-370)

Exam Description: The Troubleshooting Cisco Wireless Enterprise Networks (WITSHOOT) exam (300-370) is a 90-minute, 60-70 question assessment that is associated with the CCNP Wireless certification. This exam tests a candidate's knowledge of troubleshooting and optimizing Enterprise wireless infrastructure and related services plus the tools and methodologies needed to identify and resolve client connectivity, performance, and RF issues. Candidates can prepare for this exam by taking the Troubleshooting Cisco Wireless Enterprise Networks (WITSHOOT) course.

The following topics are general guidelines for the content that is likely to be included on the exam. However, other related topics may also appear on any specific instance of the exam. To better reflect the contents of the exam and for clarity purposes, these guidelines may change at any time without notice.

- 10%** **1.0** **Troubleshooting Methodology**
 - 1.1 Apply the appropriate trouble shooting methods to identify an issue
 - 1.1.a Bottom up
 - 1.1.b Top down
 - 1.1.c Divide and Conquer
 - 1.1.d Shoot from the hip
 - 1.2 Utilize the appropriate tools to assist in isolating an issue
 - 1.2.a Interpret Show commands
 - 1.2.b Interpret Debug commands
 - 1.2.c Interpret Config analyzer output
 - 1.2.d Interpret Sniffer traces
 - 1.2.e Interpret Spectrum analysis
 - 1.2.f Interpret Ekahau output
- 15%** **2.0** **Troubleshoot AP Joining Issues**
 - 2.1 Resolve controller discovery issues
 - 2.1.a Compare controller discovery methods
 - 2.1.b Analyze Controller selection method
 - 2.2 Resolve DTLS session establishment issues
 - 2.3 Resolve AP Joining issues
 - 2.3.a Analyze join phase issues
 - 2.3.b Analyze configuration phase issues
- 20%** **3.0** **Troubleshoot Client Connectivity Issues**
 - 3.1 Identify and resolve authentication issues
 - 3.1.a Identify 802.11 issues

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- 3.1.b Analyze external EAP issues
 - 3.1.c Resolve local EAP issues
 - 3.1.d Resolve WebAuth issues

 - 3.2 Identify RF signal issues
 - 3.2.a Analyze poor RSSI/SNR issues due to AP-client positions
 - 3.2.b Evaluate degraded RF conditions in the cell
 - 3.2.c Evaluate excessive retries
 - 3.2.d Resolve poor roaming performances (client stickiness or cell overlap issues)

 - 3.3 Resolve supplicant configuration issues – (iOS, Android, Windows, MAC OS, year 2013+)

 - 3.4 Troubleshooting autonomous AP links
 - 3.4.a Troubleshooting work group bridge connectivity
 - 3.4.b Troubleshoot WGB roaming issues
 - 3.4.c Evaluate AP to AP EAP authentication issues
 - 3.4.d Resolve root and non-root connectivity issues

 - 13% 4.0 Identify and Locate RF Interferences**
 - 4.1 Identify and mitigate rogues
 - 4.1.a Characterize rogue clients and rogue access point
 - 4.1.b Implement rogue mitigation techniques

 - 4.2 Manage non-802.11 interferences
 - 4.2.a Detect and characterize non-802.11 interferences
 - 4.2.b Evaluate interference zone of impact
 - 4.2.c Assess interference security severity

 - 17% 5.0 Troubleshoot Client Performance Issues**
 - 5.1 Characterize roaming issues
 - 5.1.a Identify client stickiness
 - 5.1.b Mitigate ping pong effect
 - 5.1.c Resolve cross-band roaming issues

 - 5.2 Evaluate throughput and data rate issues
 - 5.2.a Identify rate shifting issues
 - 5.2.b Evaluate incompatible client requirements vs AP settings

 - 5.3 Identify the source of poor user experience
 - 5.3.a Evaluate L2 issues vs upper Layer issues
 - 5.3.b Identify cell design issues
 - 5.3.c Mitigate Overlapping Basic Service Sets (OBSS) issues in high density designs
 - 5.3.d Resolve channel planning issues



15% 6.0 Identify Common Wired Infrastructure Issues Based on the Output From Common Troubleshooting Tools

- 6.1 Identify DHCP - DHCPv4 / DHCPv6 issues
- 6.2 Identify DNS issues
- 6.3 Identify VLAN issues
- 6.4 Analyze end to end IP connectivity issues
- 6.5 Assess POE issues
- 6.6 Describe stacking as it related to wireless licenses and WCM role

10% 7.0 Troubleshoot WLC and AP High Availability Issues

- 7.1 Troubleshoot primary, secondary, tertiary controller join issues
 - 7.1.a Resolve configuration mismatch
 - 7.1.b Address capacity and capability mismatch
- 7.2 Troubleshoot Stateful Switch Over (SSO) issues
 - 7.2.a Resolve primary and backup communication issues
 - 7.2.b Assess primary and backup unsynchronized elements
 - 7.2.c Analyze AP and client failover process