

Using the SmartClass™ TPS OneCheck Test with Pass/Fail Results to Verify Triple-Play Services Quality

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The JDSU SmartClass Triple-Play Services (TPS) Tester is the ideal tool for technicians who install Triple-Play services or who need to quickly repair service quality issues.

Test Challenge

Service providers and operators bundle DSL access, data for web services, VoIP, and IP video into one subscriber package. Field technicians are often overwhelmed with the complexity of testing all of these technologies simultaneously, so test methods and procedures are not followed consistently. Consequently, operators struggle with an unnecessarily high equipment swap-out rate as technicians replace working equipment like DSL modems or set-top boxes (STBs) in order to troubleshoot problems. This often requires a second customer visit to solve the problem, leading to high technician repeat rates. Another drawback is that operators also miss using insightful test data from the field to improve their network design and quality of service (QoS).

Addressing the Challenge Using the SmartClass TPS

The SmartClass TPS OneCheck is an automated test on DSL, data throughput, VoIP, and video that provides clear pass/fail results.

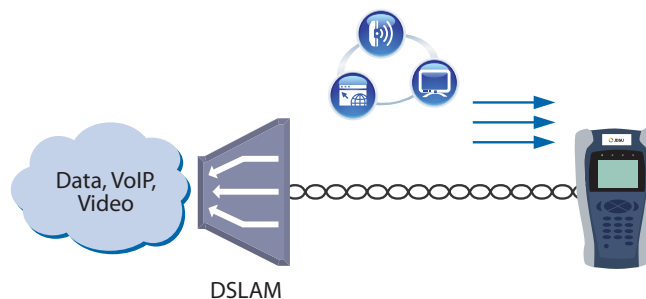


Figure 1. SmartClass TPS OneCheck automates DSL, data, VoIP, and video testing with pass/fail results to significantly reduce test time.

Test	What it tests	Why is it needed?
Physical link*	DSL with pass/fail on connection rate, maximum rate, noise margin, and attenuation	High data rates achieved with VDSL and/or DSL bonding are more susceptible to impairments due to a higher transmission frequency range and complex protocols. Good QoS on data, VoIP, and video services requires a pristine physical link.
Network authentication	Network authentication using IPoE/IPoE6 or PPPoE, with user login status information	Certifying the network during customer service turn-up.
IP ping	Connectivity and delay time through the network with pass/fail results for receiving a successful ping reply within set timing thresholds (average or maximum ping time)	Network delay is crucial, especially with high-interaction applications such as gaming.
File upload	File upload rates using FTP or HTTP protocol with pass/fail results for targeted rates	DSL profile parameters, such as impulse noise protection (INP) and delay and network aggregation issues, determine user-experienced data speeds.
File download	File download rate using FTP or HTTP protocol with pass/fail results for targeted rates	DSL profile parameters, such as INP and delay and network aggregation issues, determine user-experienced data speeds.
Video	Verifies that all video channels based on a loaded channel list are available and perform according to QoS thresholds (latency, jitter, loss) with pass/fail results	Verify video channel availability and quality to meet customer expectations.
VoIP	Registration at the gateway by placing an automated or manual call with call quality according to QoS thresholds (loss, jitter, delay) with pass/fail results and includes an MOS result.	Ensure that service setup and provisioning match the customer profile. Verify connectivity beyond the signaling gateway and ensure user-perceived premium call quality.

*The physical link can be ADSL2+/VDSL, ADSL/VDSL bonding, or Ethernet 10/100 Mbps.

Table 1. SmartClass TPS OneCheck test metrics

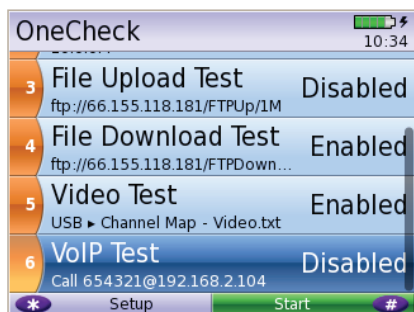


Figure 2. Launching the SmartClass TPS OneCheck test lets technicians use enable or disable to choose which tests to run.

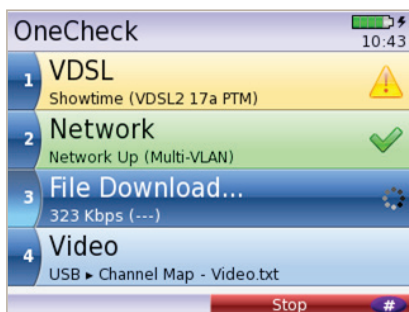


Figure 3. Running the SmartClass TPS OneCheck test, technicians can stop, resume, or reset the test.

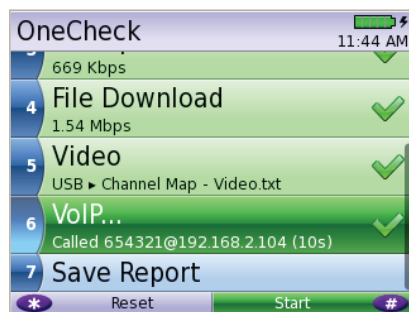


Figure 4. After completing the SmartClass TPS OneCheck test, technicians receive pass/fail results for the tests conducted that they can save in CSV, HTML, or PDF file format.

Conclusion

The SmartClass TPS OneCheck automates DSL, data, VoIP, and video testing providing technicians with pass/fail results, so they can get the job done faster. Automated tests include a DSL test for ADSL2+/VDSL2 and DSL bonding, an IPv4/IPv6 ping test, a data file transfer test with an optional concurrent stream test for higher bandwidth utilization, a video test on all available channels, and a VoIP call test with automated voice announcement. The OneCheck test significantly reduces test times so technicians can test all services with minimal training and provides operators with all of the field test data so they can improve QoS and reduce repeat repairs.

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