![QualityLogic logo]

# Fax Software Testing

## Held Over by Popular Demand

Facsimile has been a major communications channel for nearly half a century. You'd think that sending pages from one fax machine to another would be a simple certainty by now – but it's not so.

The implementation of the T.30 protocol, which the International Telecommunications Union uses to govern fax transmissions, has varied widely from one manufacturer to the next and even from one model line of fax machines to the next.

On top of this native compatibility problem, the switched circuit public telephone network that fax was intended for is being rapidly replaced by Voice over IP, which switches data packets over the Internet. The impairment compensations built into fax for the switched circuit network actually cause problems over the switched packet network.

*The outcome of all this has been an unfortunate litany of:*

- Fax calls that don't connect with answering terminals

- Fax calls that terminate without transferring all the queued pages

- Fax terminals that appears to send/receive all pages but turns on an error indicator

- Receiving fax terminals that print flawed pages

- Fax calls that seem to take an inordinate amount of time to complete

It commonly falls to an IT or Communications manager to 'make fax work,' and that means finding a tool or service that can discover and analyze fax transmission problems. QualityLogic has been deeply involved in the facsimile protocol and making such tools for over 20 years.

## FaxLab: Test Your System

FaxLab addresses the interoperability problem caused by the creative interpretations of the T.30 protocol used to build fax terminals and the PSTN side of IP gateways. FaxLab uses highly-detailed statistical T.30 device profiles and a comprehensive set of test calls to play back the behavior of real-world devices, replacing a lab full of facsimile devices with software.

FaxLab works for equipment manufacturers and provides telecom carriers with end-to-end troubleshooting. FaxLab emulates 177 V.17 and 45 V.34 fax machines, MFPs, fax modem/fax software combinations to emulate the installed base of fax systems. Its precisely crafted and recorded test calls facilitate fast, accurate problem assessments for Fax over IP networks as well as PSTN connected systems. Its reporting system covers high level ITU Figure of Merit assessments to quickly sort failed and marginal calls from acceptable connections, as well as intricately detailed T.30 parameter values.

# DataProbe: Monitor Connections

DataProbe monitors and analyzes the protocols that are used to transfer facsimile page images. DataProbe does not generate or answer fax calls. Instead it monitors them for negotiation issues, page transfer faults and transport protocol problems.

In its basic T30 version, it uses a DataTrap capture device to acquire and parse T.30 messages from analog PSTN lines and performs the same in-depth analysis that our FaxLab product employs.

DataProbe's T30-T38 edition will also tap SIP-managed IP fax traffic to parse T.30 messages out of G.711 packets and directly record and analyze T.38 packets.

Since it includes the T30 version's PSTN monitoring capability, it can display ladder diagrams of the T.30 call messages vs. T.38 or G.711 packets to directly point out communications failures. Place a DataTrap at each end of the call and it can put up a ladder diagram of the complete call from originator to answerer.

## Fax Test Product Distinctions

*The main features of each product are listed in the table below for easy comparison.*

| Product | Send / Receive | Monitor | Scripting | Analysis | V.17 | V.34 | T.38 | G.711 |
|---|---|---|---|---|---|---|---|---|
| *FaxLab* | Yes | No | Yes | Yes | Yes | Yes | No | No |
| *DataProbe T30* | No | Yes | No | Yes | Yes | Yes | Yes | Yes |
| *DataProbe T30-T38* | No | Yes | No | Yes | Yes | Yes | Yes | Yes |

## Fax Test Services

If your IT staff aren't familiar with fax protocols, we can troubleshoot your systems remotely and securely using FaxLab and/or DataProbe. We'll perform the assessment, prepare a detailed test report, and recommend actions to correct the issue.

## Fax Protocol Training

If you'd like to get your staff up to speed on all things fax, we can provide a two-day engineering level training course in fax technologies. The two-day course can be held at your site, and we also schedule periodic open classes.

## For More Information

Visit www.QualityLogic.com or call +1 208-424-1905

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