Telecommunications Service Assurance Solutions

Product Portfolio

Exempler®

Contents

For inquires contact us at info@exempler.com.

Overview

In today's rapidly changing telecommunications world, staying ahead of the competition means deploying sophisticated applications with superior service quality. This often demands testing your solutions end-to-end, across vendor platforms, against multiple technologies and interfaces as well as over vast geographical areas.

To accomplish this task, it is no longer sufficient to use traditional test solutions that handle a single technology in one system. The interplay between the different technologies, such as TDM, CDMA, GSM, VoWiFi, LTE, VoLTE and 5G, has become all too common; making multi-technology test solutions a must.

Well, Exempler has changed the playing field in network telecommunications end-user testing by introducing its Feature Test System (FTS) line of products. FTS products are designed for automated end-user network feature testing. Each FTS solution is multi-technology capable. This enables the network testing of various end-user scenarios that involve different technologies such as TDM, CDMA, GSM, LTE, VOIP, VoWiFi, VoLTE and 5G all in a single system.

The FTS line of products come in four different chassis types; Laptop, Desktop, Portable and Lab. Each is designed to meet end-user network testing needs in a specific test setting.

FTS is driven by a unique patent-pending call engine which is served by a powerful codeless keyword-based scripting language, KSL. With KSL automated test specification is a breeze. Exempler offers a library of automated scripts written in KSL called Call-process Test Library (CTL).

Exempler also offers TestSecretary, a state-of-the-art Web-based, automation centric test management system that tracks testing initiatives from requirements to quality of service metrics reporting.

Exempler's solutions are designed to be lightweight, intuitive and cost effective. With your choice of an FTS system, TestSecretary and a CTL library, multi-technology telecommunications end-user network testing is literary only a click away!

FTS-Laptop^{TM}

"Small foot print, large outreach"

Exempler's FTS-Laptop was designed with the mobile tester in mind. With FTS-Laptop, testers have the unique advantage of running comprehensive sets of end-user based automated test, anywhere at any time. This makes it ideal for ad-hoc testing, drive testing as well as off-site testing. FTS-Laptop helps you achieve extensive geographical testing coverage and hence gives you the confidence of deploying solutions ahead of the competition on a well tested network. Built on a rugged laptop PC platform, a lightweight test management system and a comprehensive automation-based call engine, FTS-Laptop provides the hardware and software reliability the mobile tester needs.

With FTS-Laptop you can setup several wireless handsets with different service provisioning options in a single system. Using the web-based TestSceratery^{TM} interface, you have the full benefits of a comprehensive test management system that helps you track testing progress from requirements gathering to results reporting to problem identification and resolution. You can also add a Legacy PSTN line and/or VOIP ports to your system for more complex multi-technology network testing.

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FTS-Laptop specifications

Interfaces

- Analog LEGACY PSTN
- IP over Ethernet (ND15-5)
- Android Handset
- Voice Modem

Media Capabilities

- G.711 A-law and µ-law
- DTMF send and detect (in-band, out-band)
- Tone send and detect
- Fax T.38 FoIP
- RTP (SIP)

Common Test Applications

- Mobile-to-mobile
- Mobile-to-landline
- Landline-to-mobile
- Data calls
- Local, long distance, international
- Caller ID
- Call waiting
- Multiparty calling
- Call forwarding
- Web Testing
- Lab testing
- Multi-technology based calls

Supported Call Types

- Analog voice
- VoIP
- CDMA
- GSM
- LTE
- Fax
- VoLTE
- 5G
- Web
- VoWiFi

Test Profile Functionality

- Advanced Keyword-based universal scripting language
- Detailed call event logging
- Test control via web-based management system
- Optional test control via CLI
- Fully parameterized codeless scripting
- Supports script cloning, labeling and commenting
- Control external network elements via custom integration with any script or program

Interface Type	Number
Min CDMA ports	2
Max CDMA ports	4
Min GSM ports	2
Max GSM ports	4
Min analog ports	1
Max analog ports	1
Min VoIP ports	1
Max VoIP ports	1
Min VoWiFi ports	2
Max VoWiFi ports	4
Min VoLTE ports	2
Max VoLTE ports	4

System and Software Specifications

OS:	Windows®10 Pro
Processor:	2.6GHz Intel Core i5-7300U
Memory:	8 GB RAM
Storage:	256 GB SSD drive
Dimensions:	2.0"(H) 14.0"(W) 11.3"(D)
Software:	Exempler CallProcess
	Exempler TestSecretary
	Microsoft .NET framework
	Analog voice modem driver
	Skype
	Android ADB

FTS-Desktop™

"Modest appearance, powerful solution"

Exempler's FTS-Desktop is a very capable test system that can be placed in a variety of test settings. Disguised in the chassis of a regular desktop PC, this comprehensive test system can test a heterogeneous network with varying interfaces from the most unlikely location such as your office desk. You can configure FTS-Desktop with a mix of VOIP, LTE, Android Handsets, GSM devices and LEGACY PSTN lines. FTS-Desktop is ideal for the small company that is not ready to invest in a full blown lab, but still wants to have the confidence of delivering a well tested product. Managed by the Web server-based TestSecretary interface, an entire organization from test planners to project managers can stay up-to-date on testing progress and overall solution quality.
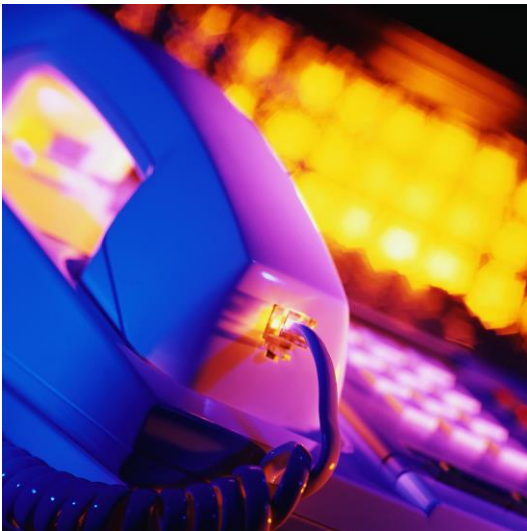
FTS-Desktop is highly configurable to meet your testing needs. With the variety of interfaces to choose from, you can run very complex combinations

of CLASS feature test cases on interfaces such as GSM-VOIP, VoLTE-PSTN, VOWIFI-CDMA to name a few. With FTS-Desktop, you can achieve superior test coverage in complex multi-technology networks. Test applications such as; end-to-end voice, end-to-end data, end-to-end fax, auto-attendants, IVRs and announcement servers.

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FTS-Desktop specifications

Interfaces

- Analog
- T1
- ISDN BRI
- ISDN PRI
- IP over Ethernet (ND15-5)
- Android Handset
- Voice Modem

Media Capabilities

- G.711 A-law and μ-law
- DTMF send and detect (in-band, out-band)
- Voice send detect and record
- Tone send and detect
- Fax T.38 FoIP
- Fax T.30 G3
- RTP (SIP)
- Fax V.34
- Data Modem V.90

Common Test Application

- End-to-end voice
- End-to-end data
- End-to-end Fax
- Data calls
- PBX and Gateway
- Auto attendants
- IVR and announcement servers
- Application servers
- Media Servers
- Supplementary Feature calls
- Multi-technology based calls

Supported Call Types

- VoIP
- CDMA
- GSM
- LTE
- Analog Modem
- G3 Fax
- 5G
- VoLTE
- Web
- VoWiFi

Test Profile Functionality

- Advanced Keyword-based universal scripting language
- Detailed call event logging
- Test control via web-based management system
- Optional test control via CLI
- Fully parameterized codeless scripting
- Supports script cloning, labeling and commenting
- Control external network elements via custom integration with any script or program

Interface Type	Number
Min CDMA ports	2
Max CDMA ports	12
Min GSM ports	2
Max GSM ports	12
Min analog ports	1
Max analog ports	24
Min VoIP ports	2
Max VoIP ports	12
Min VoWiFi ports	2
Max VoWiFi ports	12
Min VoLTE ports	2
Max VoLTE ports	12

System and Software Specifications

OS:	Windows®10 Pro
Processor:	3.0 GHz Pentium 4
Memory:	2 GB RAM
Storage:	1 TB hard drive
Dimensions:	9.0" (H) 11.2" (W) 13.8" (D)
Software:	Exempler CallProcess
	Exempler TestSecretary
	Dialogic Diva® Server
	Microsoft .NET framework
	Analog voice modem driver
	Skype
	Android ADB

FTS-Portable™

"One solution, multiple locations"

The FTS-Portable solution from Exempler offers all the capabilities of an FTS system, yet it can be moved from location to location. Built on a rugged industrial portable all-in-one PC chassis, FTS-Portable is a true mobile testing lab solution. FTS-Portable is ideal for the field test engineer who is tasked with running comprehensive tests for a period of time at different sites. Whether it is turning up a new site or certifying new equipment at an existing site, FTS-Portable can do the job. With all interfaces supported (VoLTE, LEGACY PSTN, VOIP, VOWIFI, LTE, CDMA, GSM), you will never be left with a test you cannot run. Multi-site, post turn-up results analysis is made easy with the TestSecretary test management system.
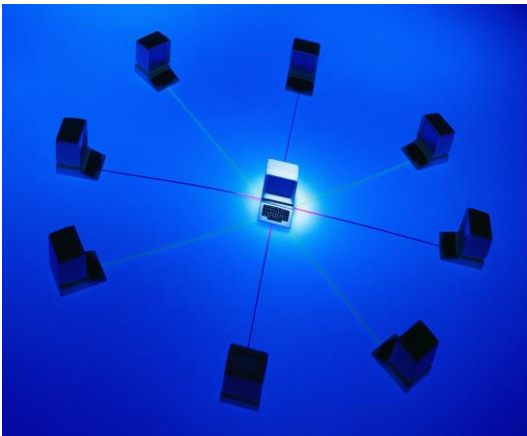
With the full range of port types and interfaces, you can cover unexpected test scenarios you may be faced with at a test site. In addition, Exempler's Keyword-based Scripting Language (KSL) makes it easy to create complex feature-rich test cases in a very short time. Validate supplementary features such as; Call-waiting, Call-forwarding, Three-way calling, Caller Number delivery, Call-block and many more, to ensure that your customers are satisfied at all times. With FTS-Portable, you can run overnight runs at a site to pinpoint problems or certify new network patches or loads.

Exempler®

FTS-Portable specifications

Interfaces

- Analog
- T1
- ISDN BRI
- ISDN PRI
- IP over Ethernet (ND15-5)
- Android Handset
- Voice Modem

Media Capabilities

- G.711 A-law and μ-law
- DTMF send and detect (in-band, out-band)
- Voice send detect and record
- Tone send and detect
- Fax T.38 FoIP
- Fax T.30 G3
- RTP (SIP)
- Fax V.34
- Data Modem V.90

Common Test Application

- End-to-end voice
- End-to-end data
- End-to-end Fax
- PBX and Gateway
- Data calls
- IVR and announcement servers
- Application servers
- Media Servers
- Supplementary feature calls
- Multi-technology calls

Supported Call Types

- VoIP
- CDMA
- GSM
- LTE
- Analog Modem
- G3 Fax
- 5G
- VoLTE
- Web
- VoWiFi

Test Profile Functionality

- Advanced Keyword-based universal scripting language
- Detailed call event logging
- Test control via web-based management system
- Optional test control via CLI
- Fully parameterized codeless scripting
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Interface Type	Number
Min CDMA ports	2
Max CDMA ports	24
Min GSM ports	2
Max GSM ports	24
Min analog ports	2
Max analog ports	48
Min VoIP ports	2
Max VoIP ports	24
Min VoWiFi ports	2
Max VoWiFi ports	24
Min VoLTE ports	2
Max VoLTE ports	24

System and Software Specifications

OS:	Windows®10 Pro
Processor:	2.4GHz Core 2 Duo CPU
Memory:	4 GB RAM
Storage:	320 GB hard drive
Dimensions:	9.0" (H) 11.2" (W) 13.8" (D)
Software:	Exempler CallProcess
	Exempler TestSecretary
	Dialogic Diva® Server
	Microsoft .NET framework
	Analog voice modem driver
	Skype
	Android ADB

FTS-Lab™

"The ultimate testing machine"

FTS-Lab is the most capable Feature Test System offered by Exempler. Built on an industrial rack-mountable PC platform, FTS-Lab is ideal for placement in a full blown state-of-the-art testing lab. FTS-Lab has a large number of expansion slots which allows for configuration of the port mix you need. FTS-Lap is a workhorse automation test machine designed to run 24 hours a day, 7 days a week, 365 days a year. Multi-technology capabilities means that you can achieve complete test coverage of the most complex telecommunications networks. You can rack mount several systems and control them via one TestSecreatry management system. FTS-Lab is a call processing automation test solution no telecommunications lab should do without.
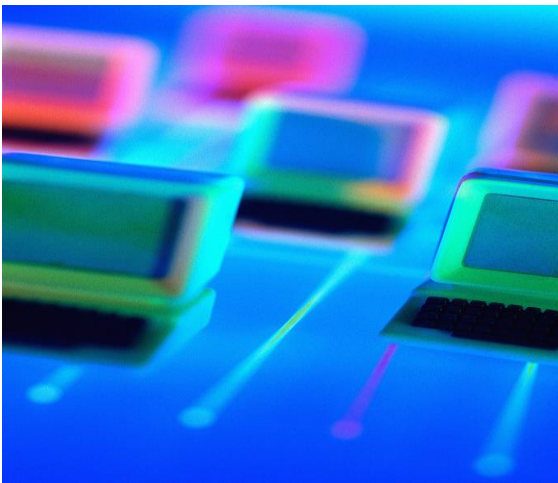
Test multiple applications, on multiple platforms, with multiple technologies all in one FTS-Lab system. Test applications can be; media servers, end-to-end voice, end-to-end-fax, end-to-end data, enterprise PBX gateways, IVRs, announcement servers to name a few. With a 24×7×365 operating capability, FTS-Lab proves ideal for call-through testing, regression testing, feature load and network call quality monitoring. Managed by the Web-based TestSecretary management system, results with detailed logs can be retrieved in real time for analysis and troubleshooting.

FTS-Lab specifications

Interfaces

- Analog
- T1
- ISDN BRI
- ISDN PRI
- IP over Ethernet (ND15-5)
- Android Handset
- Voice Modem

Media Capabilities

- G.711 A-law and μ-law
- DTMF send and detect (in-band, out-band)
- Voice send detect and record
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- Fax T.38 FoIP
- Fax T.30 G3
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- Fax V.34
- Data Modem V.90

Common Test Application

- End-to-end voice
- End-to-end data
- End-to-end Fax
- Data calls
- Auto attendants
- IVR and announcement servers
- Application servers
- Media Servers
- Supplementary feature calls
- Multi-technology calls

Supported Call Types

- Analog voice
- VoIP
- CDMA
- GSM
- LTE
- Analog Modem
- G3 Fax
- 5G

- VoLTE
- Web
- VoWiFi

Test Profile Functionality

- Advanced Keyword-based universal scripting language
- Detailed call event logging
- Test control via web-based management system
- Optional test control via CLI
- Fully parameterized codeless scripting
- Supports script cloning, labeling and commenting
- Control external network elements via custom integration with any script or program

Interface Type	Number
Min CDMA ports	2
Max CDMA ports	48
Min GSM ports	2
Max GSM ports	48
Min analog ports	2
Max analog ports	96
Min VoIP ports	2
Max VoIP ports	48
Min VoWiFi ports	2
Max VoWiFi ports	48
Min VoLTE ports	2
Max VoLTE ports	48

System and Software Specifications

OS:	Windows®10 Pro
Processor:	3.2GHz Core 2 Duo CPU
Memory:	16 GB RAM
Storage:	2 TB hard drive
Dimensions:	7.0" (H) 19.0" (W) 20.0" (D)
Software:	Exempler CallProcess
	Exempler TestSecretary
	Dialogic Diva® Server
	Microsoft .NET framework
	Microsoft speech
	Analog voice modem driver
	Skype
	Android ADB

TestSecretary™
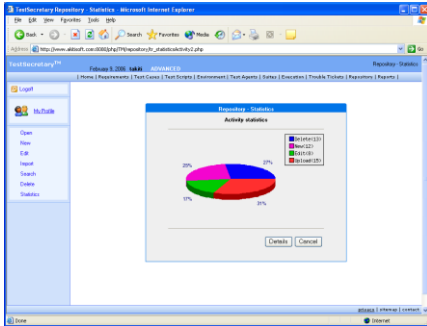
"Lightweight and comprehensive"

TestSecretary is an automation centric test support system. The application consists of 10 packages, each of which plays an important role in the testing life-cycle. The packages are designed to help: manage your requirements, write test cases, develop or document already developed test scripts, define tests and place them into suites, execute your test manually or with an automation tool agent, report and track testing defects, archive project specific documents and view test related metrics. A Web-based design, multi-platform and multi-lingual support gives the system a global outreach.
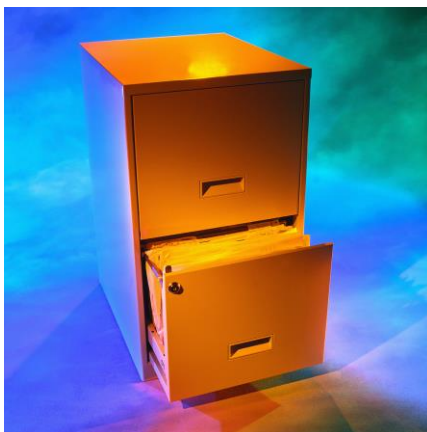
TestSecretary provides assistance to different players in a testing team. Each package is designed to address the specific needs of each player; from the project manager to the test engineer. With a fully configured version of TestSecretary, each team member has the necessary tools to contribute to the testing process:

- Planners can define testing objectives and requirements.
- Test case experts can develop and write test cases and specify test environments required for testing.
- Automation engineers can develop or integrate existing scripts and programs.
- Quality assurance testers can execute and analyze test, reporting and tracking any defects along the way.
- Project managers can create reports and manage resource allocation.
- Managers can make go/no-go decisions.

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Packages

Requirements Management: Enter and track your business requirements using the Requirements package. TestSecretary's Requirements package can be used independently to house and track your business requirements or you can use it in conjunction with other packages to achieve the desired level of traceability. Test requirements can be created directly in TestSecretary or using Excel® and then imported into TestSecretary's repository.

Tests Case Management: The Test Case package allows the tester to build test cases based on requirements. The requirements may come from our Requirements package or from an independent 3rd party application. Test cases are organized into categories and sub categories and are assigned a level of importance. Test cases are also flagged as automatable or non-automatable. Test cases can be created in TestSecretary or using Excel® and then imported into the TestSecretary repository.

Test Script Management: TestSecretary's scripting package enables you to write or document your scripts. Scripts are organized into categories and sub categories and are assigned a status. Input can be generated from within TestSecretary or imported into the repository from Excel® spreadsheets.

Test Suite Management: Create test instances and group them into suites for execution and reporting purposes. Efficient test planning implies that a single test can be run on multiple test environments or platforms. With all the appropriate packages installed, the test suite package allows you to create several test case/environment test instances.

Environment Management: Manage your unique environment using TestSecretary's Environment package. We understand that your test environment differs from everyone else's and is subject to change on short notice. Hence TestSecretary offers the flexibility
required to handle unique dynamic environments. You are given the choice of using this package independently or with our other packages.

Test Agent Management: TestSecretary provides the Test Agent package to organize and use your automation tools. By creating an agent, you can map tool endpoints to environment interfaces. You can also launch automation runs from TestSecretary. All tool related data can be stored in folders created specifically for the agent.

Execution Management: TestSecretary allows you to execute your test cases in a manual or automated mode. For cases run in an automated mode, TestSecretary's automation engine allows you to schedule tests to run unsupervised at a time of your convenience. Results of tests are posted back into the repository in real time and progress of test runs can be monitored on the Web or on your mobile device.

Trouble Ticket Management: Enter and track your test related defects with TestSecretary's trouble ticketing system. TestSecretary's Trouble Ticket package supports the entire defect lifecycle, from initial problem identification through problem resolution.
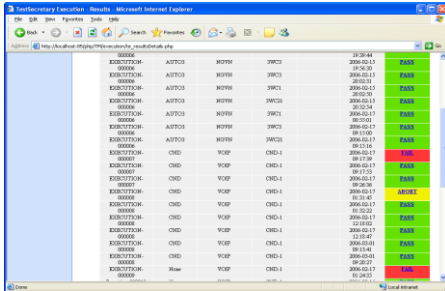
Document Management: TestSecretary provides a document management system that allows you to house various test related documents. We understand that not all documents can be integrated into a management system yet it is desirable to have your documents in a central location. Our document repository is designed for this very purpose. You can organize your documents into folders; create, edit or remove files and folders to suit your needs.

Reports Management: In addition to testing related statistics available for each package, if you purchase multiple packages you can view cross package statistics. For example, with the purchase of a fully configured version of TestSecretary you can view reports on what percentage of the testing functional requirements are covered by tests, how many of these tests have been run over a time period, and how many have passed or failed over that period.

System Requirements

1 GHz processor
1 GB RAM
1 GB free disk space (for a server-based system)
1 GB USB 2.0 (for USB-based server system)

CTL™

"Automatic harmony"

The Call Processing Test Library (CTL) is a comprehensive automated suite of tests for feature testing. No matter the technology of your core network, TDM, VOIP or IMS you need to assure your costumers that all your call processing features work as advertised. With the call processing test library, you can test all your Supplementary features such as; 3-way call, call-forwarding, call-waiting automatically eliminating the need for a multi-shift testing staff. With the call processing test library, you can shorten the time to bring your product to market. Built on proven technology, tests may run 24 by 7 by 365 to serve as a network Quality of Service (QoS) monitor. It also serves as an excellent regression suite and switch certification tool.
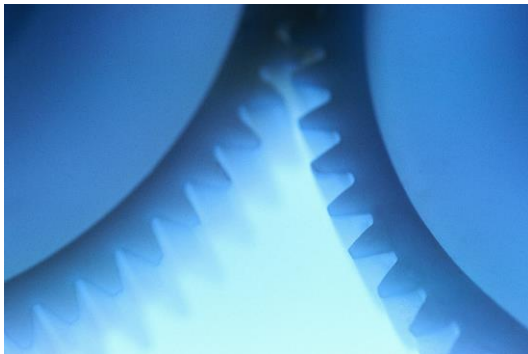
Key Features

- Comprehensive automated test library for call processing feature testing

- Industrial standard based call processing feature tests

- Driven by state-of-the-art patent-pending multi-technology capable call engine

- Excellent for regression, feature load and sanity testing

- Build and run infinite test scenarios

- Rapid addition of custom tests with the KSL scripting language

- Managed by premier Web-based test management system – TestSecretary™

- Tests run on multiple platforms even with different technologies; CDMA GSM, TDM, VoLTE and 5G

For inquires contact us at info@exempler.com.