

KaNest®-Director Load and Stress Testing

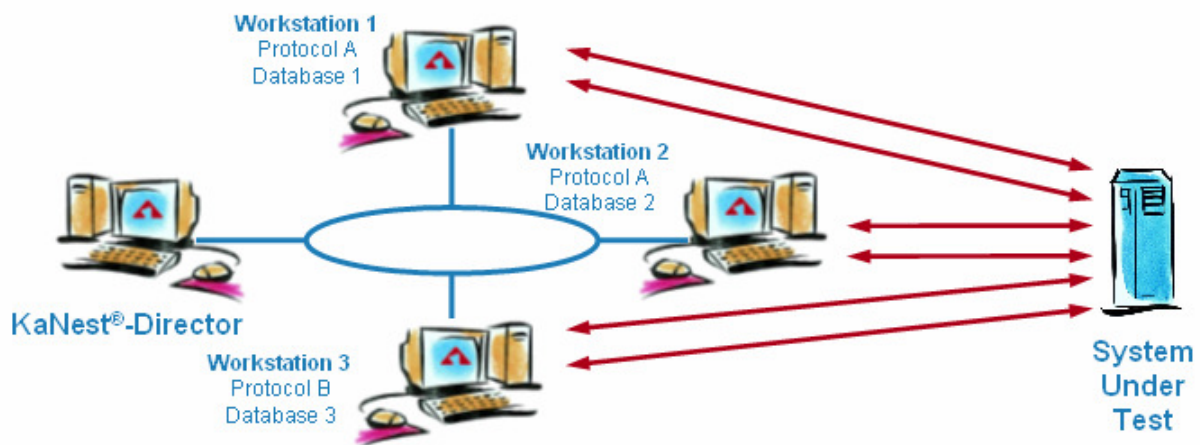
KaNest®-Director is a utility monitoring several **KaNest®** simulators to generate heavy loads on the System Under Test (SUT) and check its behavior.

Creating behaviors that are close to the real world, **KaNest®-Director** is your best partner to **benchmark** different solutions or **appraise** your host in terms of:

- **Performance:** evolution of response times?
- **Scalability:** which supported throughput?
- **Reliability:** what availability over time?

Key features

- Up to 900 TPS per workstation
- Multiple protocols
- Multiple communication means
- Combination of different types of simulations (POS, ATMs, ...)
- Dedicated load scripts
- Tunable balance of transaction types
- Incremental load
- Shared test databases
- Real-time statistics



GALITT Advantage

KaNest®-Director combines multiple KaNest® simulators to generate transaction flows:

- KaNest®-Director **monitors many KaNest® simulators** with independent behaviors and transaction injectors to deliver high throughputs.
- KaNest®-Director **distribute load licenses** throughout a LAN or a WAN.
- KaNest®-Director **controls the balance of transactions** to emulate the real world where multiple ATM or POS may be from different ages, supporting various protocols and accepting all types of cards.
- KaNest®-Director **leverages the KaNest® capabilities**, and thus supports EMV cryptography as well as any other kind of security features.
- KaNest®-Director assesses the quality of the flow by analyzing the received responses.

STANDARDS SUPPORTED

From STX/ETX protocols to XML protocols and the various versions of ISO 8583 standards (including the 3rd bitmap), KaNest® supports a very large set of message formats.

Concepts of the KaNest® range rely on the “Conformance testing methodology and framework” as defined in the ISO/CEI 9646-1.

LOAD AND STRESS MONITORING

KaNest®-Director controls a set of load licenses. It may support a single protocol or combine several.

LOAD LICENSES

These licenses take their rights from an existing KaNest® license that they replicate for load purposes.

Technical specifications

Tested Functions

- Load and stress behavior of
- Acquiring hosts
 - Issuer hosts
 - Switches
 - Network nodes
 - Transaction processors

Communications

- (As supported by KaNest®)
- TCP/IP
 - PSTN (modems)
 - Null Modem (RS232 cable)
 - SSL
 - X25

Formats

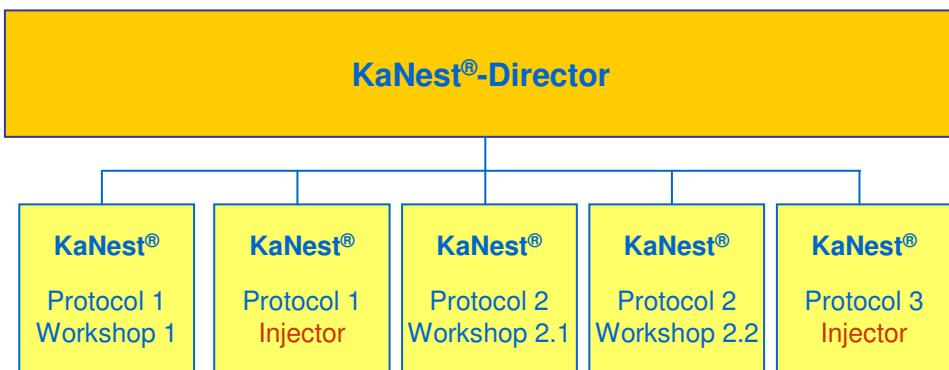
- (As supported by KaNest®)
- ISO 8583 bitmaps
 - TLV (Tag Length Value) Fields
 - Fixed and delimited fields
 - XML

Repositories

- (As supported by KaNest®)
- ISO 8583 authorization networks (e-rsb, Eufiserv, Base I & SMS, MDS, BIM, SPAN, SID...)
 - ATM protocols (NDC+, D912, Logigab, Diego...)
 - POS (CB2A, SPDH, Visa II, Hypercom 8583, APACS 30&40, proprietary...)
 - XML protocols (EPAS, IFX)
 - Private implementations

Hardware Configuration

- Pentium PC (1 GHz or above)
- XGA monitor
 - 1 Gb RAM
 - 1 Gb hard disk space
 - CD-ROM drive
 - USB port
 - Windows™ XP SP2 or SP3 (recommended)



DISTRIBUTED ARCHITECTURE

Exchanges between KaNest®-Director and the simulators are based on the DCOM model.

KaNest®-Director acts as a **client of a KaNest® simulator** and as such is allowed to trigger test scripts defined within the simulator.

Its **Load Plan** determines the balance between various available load scripts.

INJECTORS

Dedicated transaction injectors, using the **KaNest®** technology, may complement the test bench to produce high throughput.

CONSOLIDATED RESULTS

Based on results given by monitored **KaNest®** simulators, **KaNest®-Director** provides consolidated results including the distribution of response times and a status analysis.

Transaction	Number	%	TPS	Min	Average	Max
Domestic Transactions	434	50 %	2,50	0,20s	0,40s	2,50s
Foreign Transactions	450	50 %	1,34	0,34s	0,80s	2,51s
- Visa Transactions	150	30 %	1,08	0,10s	0,96s	2,51s
- MasterCard Transactions	300	70 %	1,00	0,50s	1,00s	2,30s
Totals	884	100%	3,50	0,25s	0,80s	2,50s

PC	Connec...	KaNest	Worksp...	Simulation
PC-121-w2k-FR				
- Channel 1	●	●	●	●
- Channel 2	●	●	●	●
- Channel 3	●	●	●	●
- Channel 4	●	●	●	●