Infraxis

IQS

On-demand Testing


ATM
IQS

Today's world of payments consists of an ever-increasing range of services offered across traditional networks and through service APIs, where transactions must be processed reliably at all times.

Payment systems continue to evolve rapidly with demands for business, technical and regulatory changes all contributing to the pressures facing those responsible for maintaining and operating payment services.

Add to this new and evolving online business models, where agile development approaches are expected and the challenges associated with testing modern payment infrastructure becomes very clear.

IQS helps businesses to improve quality, reduce costs and to move towards agile software development practices by providing:

- Centralised test infrastructure for sharing across the enterprise
- Access to test infrastructure using standard browsers
- A collaborative test platform for faster analysis and fault resolution
- Alignment with standard release management methods to encourage best practice
- Simple integration with Dev-Ops for agile software development
- A single solution for both functional and performance testing

Get Testing Quickly

IQS is available as a fully managed on-demand service operated by Infraxis or as a deployment on customer's own infrastructure. In either case the same powerful features are available to IQS users.

A dedicated IQS instance is made available for each IQS customer, which is then configured to meet that customer's specific testing requirements.

Users access IQS through standard web browsers, so there is no client software to install and IQS access is immediate for all users that require it.

IQS options include LDAP support, enabling standard integration with enterprise-wide access management solutions.

Infraxis operates the IQS Asset Store, which is a dedicated one-stop online portal for IQS customers. IQS customers can securely download licenses and test packs for use with their IQS instance, request assistance from Infraxis experts and get access to IQS documentation when they need it on-demand.

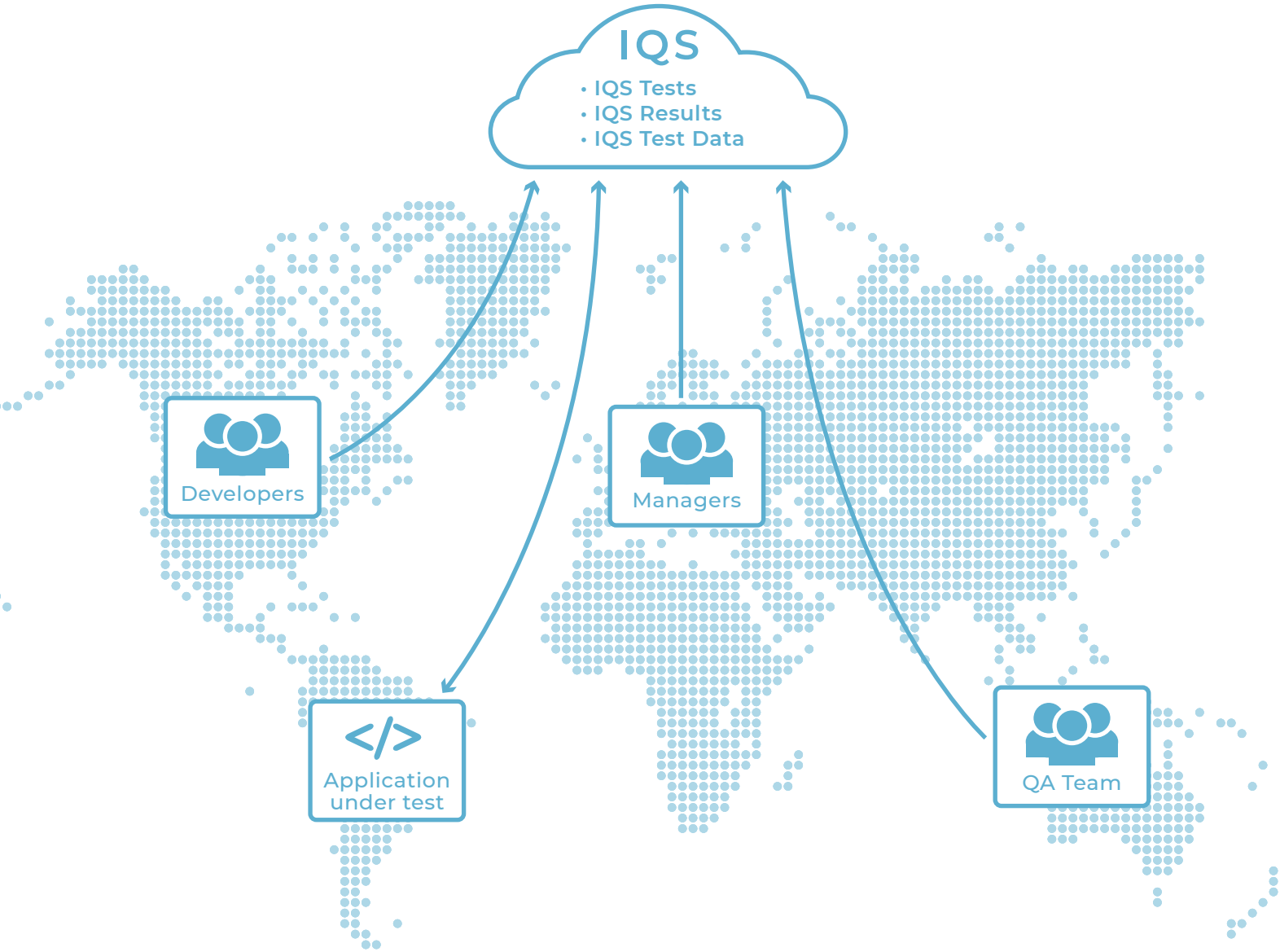
Published test packs downloaded from the Asset Store are loaded in to an IQS instance and configured, simplifying the preparation process and minimising the time needed before testing can begin.

Collaborative QA Experience

IQS puts an end to client-side test tool deployment and to decentralised management of QA.

All connections between IQS and the applications being tested are centralised and shared along with the storage of test configurations and test results.

Centralised access to IQS encourages collaboration amongst staff, helping to develop a more agile working culture covering both development and QA processes. The time taken to resolve problems can be significantly reduced when using IQS, as both development and QA staff will share test configurations and results while focusing on rapid fault resolution.



Managed Test Environments

Application interfaces, service APIs, network end-points and device connections can all be simulated and tested using IQS. It's common when testing a specific application interface for there to be some IQS simulation of surrounding systems taking place at the same time.

IQS can be configured to create a virtual test harness for an application, where the state of all connections can be controlled, allowing testing to take place independently without the presence of surrounding networks, devices and applications. This can be highly beneficial, as it minimises the reliance on restrictive test slots provided by external service providers.

Of course, surrounding systems, devices and networks can always remain connected throughout the entire testing process, so the actual configuration is decided upon by the IQS customer.

Testing In Multiple Environments

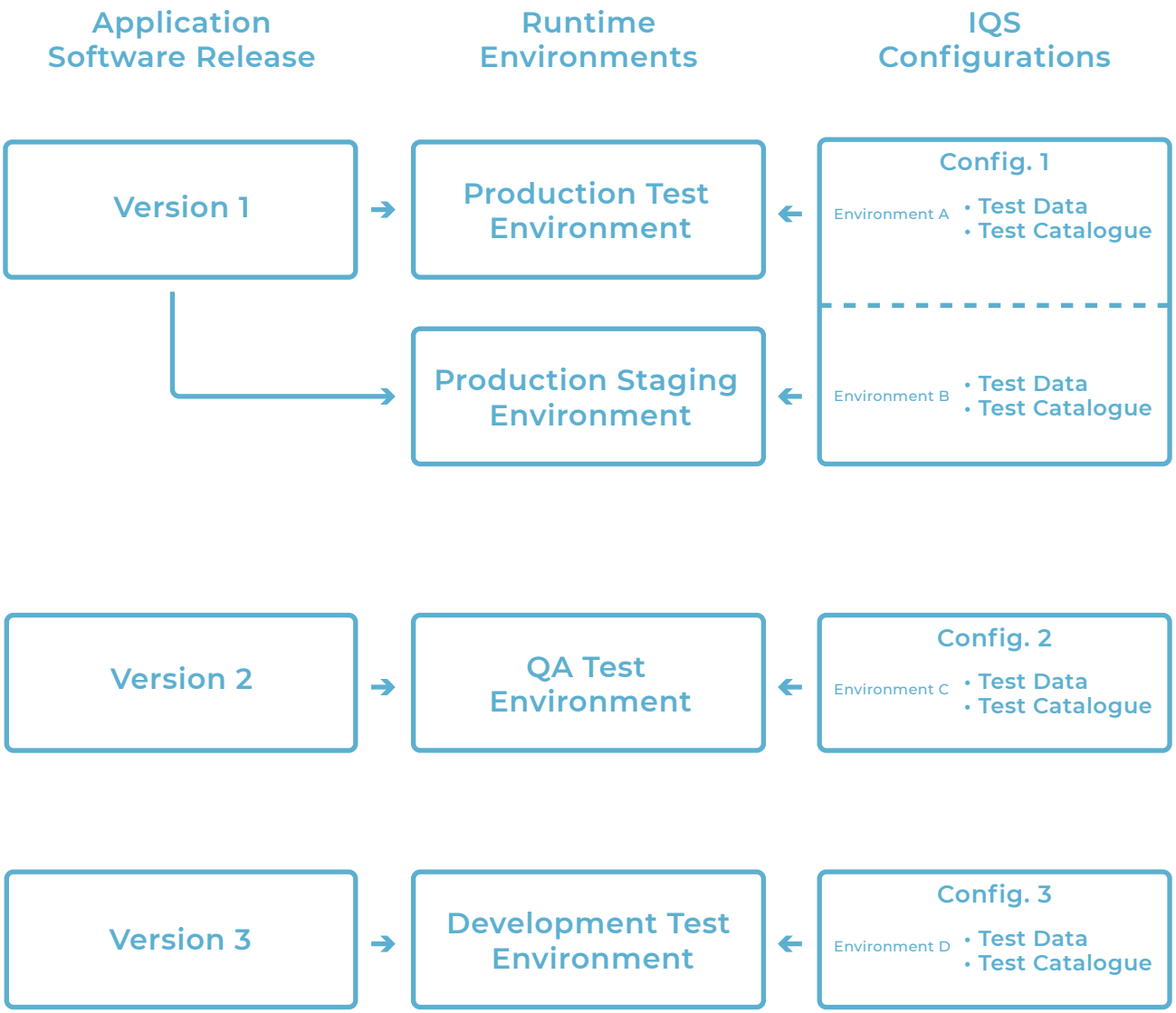
It's common for there to be a requirement to test more than one version of an application and for the different versions to operate in different runtime environments. This usually matches the business's existing application configurations used for internal release management.

Multiple test environments can be configured and switched between simply via the IQS project dashboard. This allows the same set of tests to be applied to the selected environment.

Simply Test New Releases

IQS release management enables test configurations to follow the development life-cycle of an application. By duplicating the current release's IQS configuration to form the basis for the next release, a new IQS test configuration is immediately available for modification and testing of the latest application features as they are developed.

IQS supports testing for an unrestricted number of releases, with each release configuration managed independently from all others. Older configurations can be archived and deleted as and when required.



Keeping Ahead with Test Packs

Infraxis publishes test packs which can be downloaded from the IQS Asset Store and installed on any IQS instance.

Test packs are available to suit various test scenarios and Infraxis provides a test pack development service, enabling bespoke test packs to be developed to meet individual tailored requirements.

Infraxis maintains specific test packs to comply with relevant interface standards and where appropriate, updates are released by Infraxis to cover regular mandates issued by the interface owners.

Wide-ranging Technology Support

IQS supports TCPIP and HTTP channels where XML, SOAP, JSON, tag-length-value and bitmap data can be used to communicate with systems following a defined protocol.

ISO8583 and ISO20022 is provided natively by IQS, but virtually any other standard or bespoke message exchange and format can be supported.

Structured Test Management

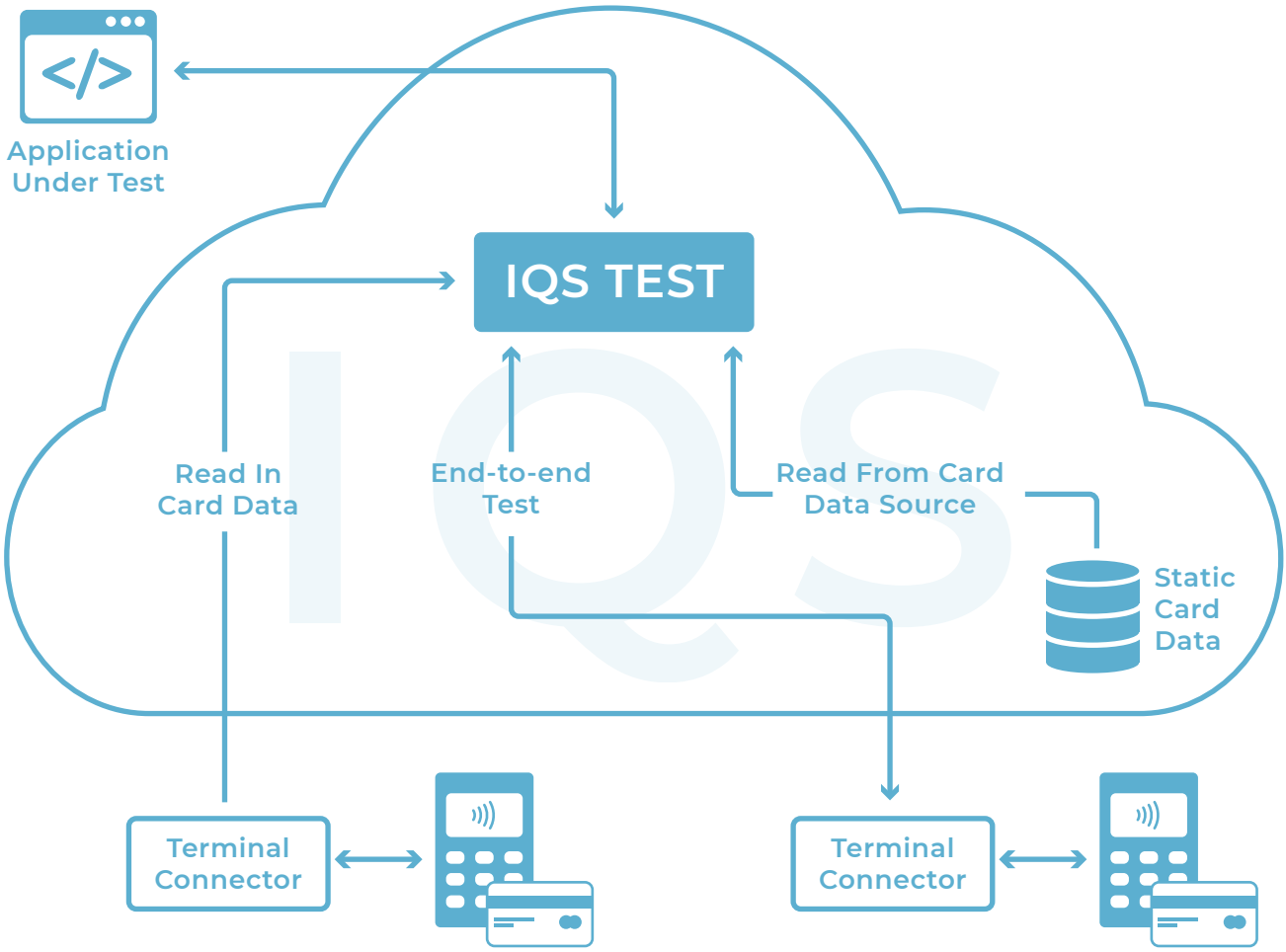
New tests are simply created using test templates that specifically match the purpose of the test pack in use.

Individual tests can be grouped in to test sets, so testing with IQS logically follows functional areas of an application. Tests can be executed individually or as a complete set.

Data sources are defined for specific purposes, which guarantees selected data elements are present for each test pack. Users choose and configure the data they wish to use for test execution by simply selecting data identities from within a data source.

Multiple data sources can be defined for a single purpose within a test pack, which is very useful for keeping data logically segmented, for example, keeping data for various card schemes separated.

Test data can be easily updated in a data source through a browser. Alternatively, data can be managed externally using a spreadsheet editor before importing into IQS.



Payment Card Data Options

IQS can quickly generate card and account data for any card-based application for loading either from a file or directly via an API if available.

The option to connect physical payment terminals via an IQS terminal connector installed on a local computer or laptop is also available. Multiple terminals may be attached, possibly in different locations, so testing can take place flexibly by a distributed workforce.

Connected terminals allow the use of physical cards in the testing process, either simply using the data read from cards or by fully integrating the card and terminal in test scenarios covering ICC/EMV message flows, including ARQC generation.

Application Data Access

Being able to know the state of application data before and after a test is a critical requirement during the testing process.

IQS can read and set application data as part of the test flow. Using careful data abstraction and small amounts of application specific custom scripting, IQS is given access to either an application's database or to application APIs through which data is accessed.

IQS tests can automatically reset data, such as financial balances, to known values prior to test execution and can perform deep data analysis to ensure application data is in the expected state following a test.

Playlists and Reports

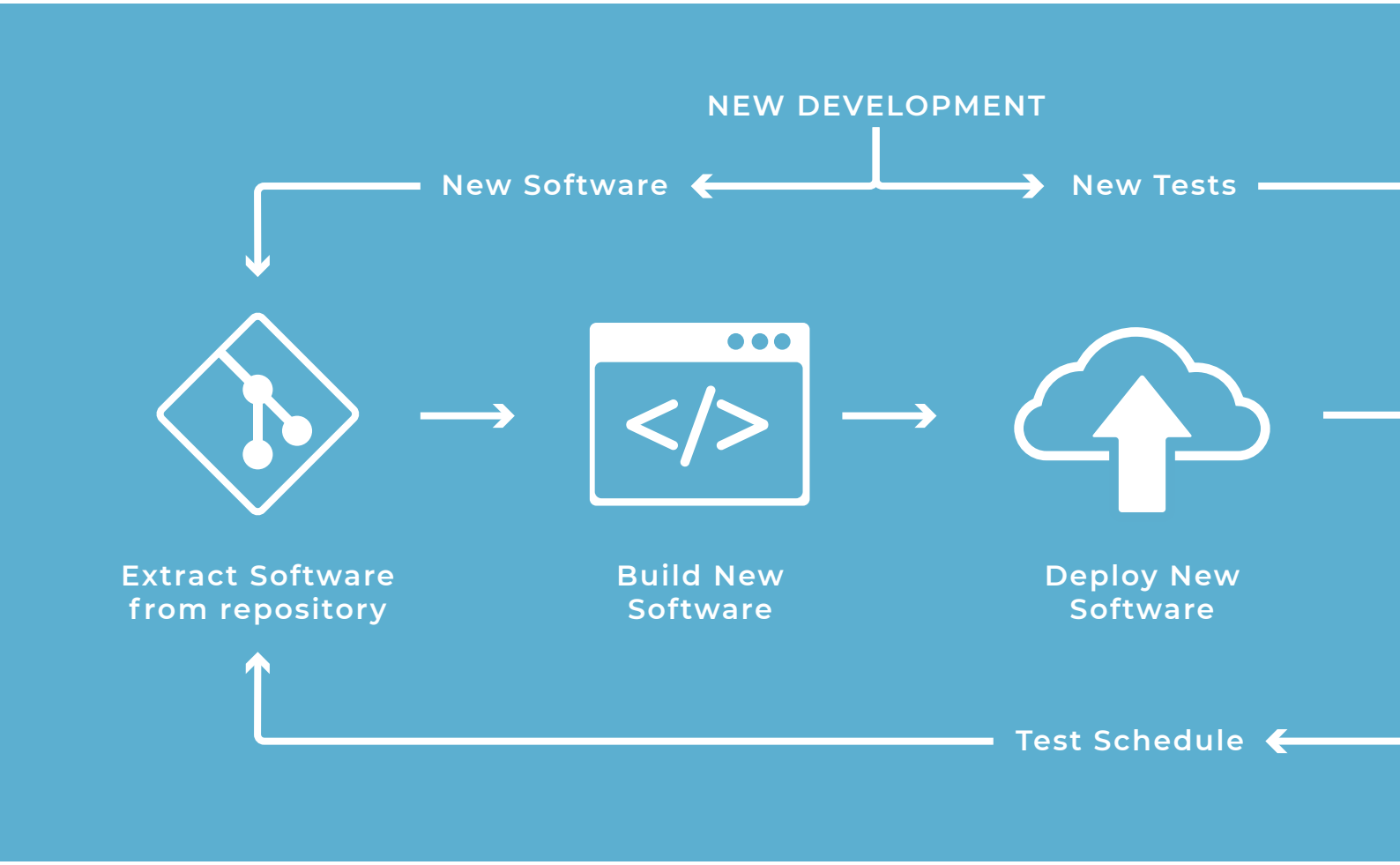
Tests can be added to IQS playlists where they are executed and managed in much the same way as a music application.

IQS keeps the status of each test placed in a playlist and records when it executes, passes or fails. The overall status of any IQS playlist can be viewed on the IQS project dashboard, where users can quickly see how many tests have been executed out of the total number of tests in the list and the current pass rate.

Reports are available that include the output from all tests executed in a playlist and those serve as a detailed record for associated test activities. By adding and removing tests in a playlist used to manage regression testing, IQS simply maintains synchronisation with application software releases as they evolve over time.

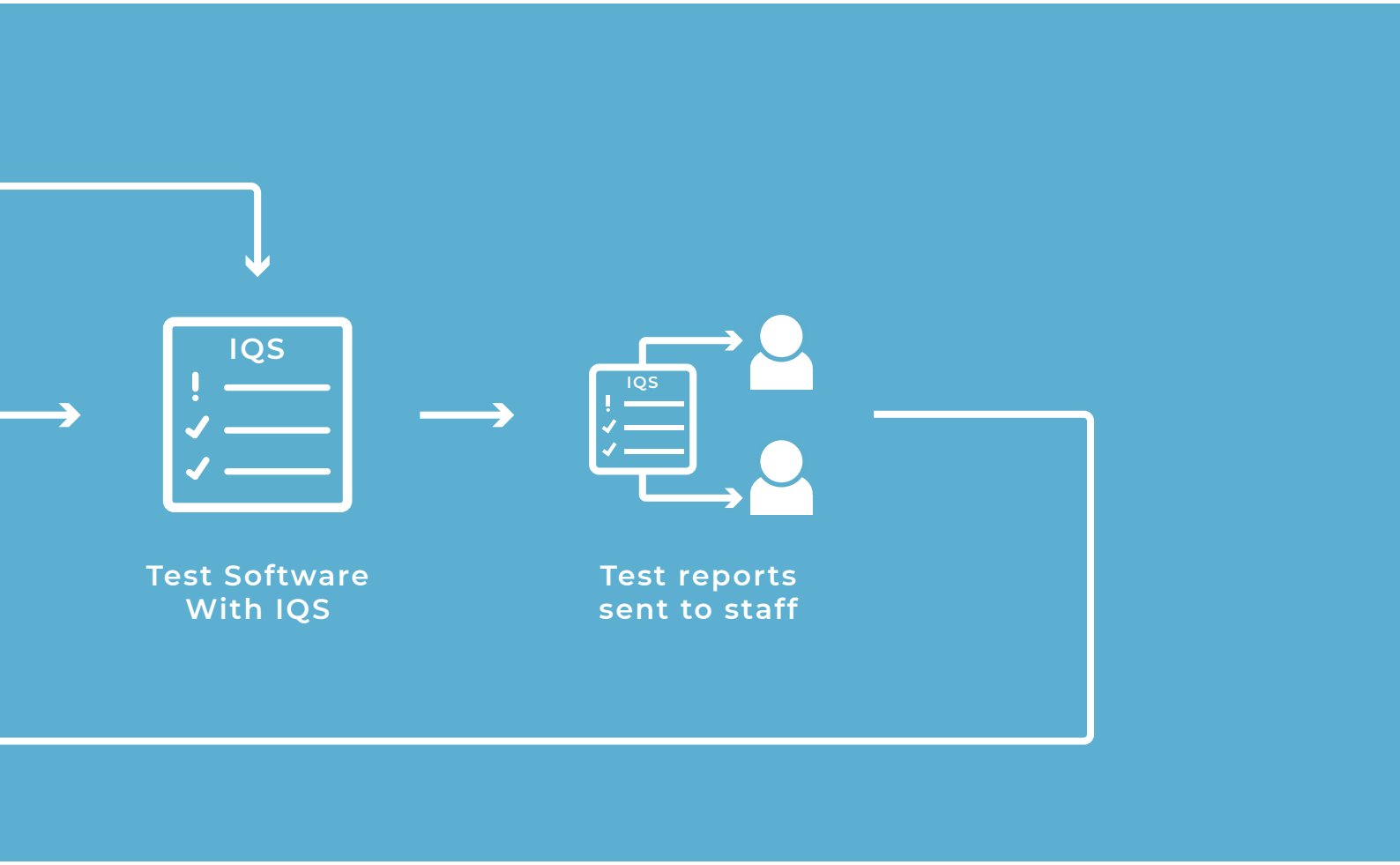
Playlists are user definable and may exist for any purpose.

Dev-Ops Automation



Automation leads to both higher quality through more frequent testing and to cost savings as faults are discovered sooner after they are introduced, making them easier to trace and to repair.

IQS can be controlled externally using secure APIs to automatically start and stop test execution. By placing automated regression tests in IQS playlists, which are then executed through the API, IQS is simply integrated with Dev-Ops.



A suitably configured scheduler can extract software from a repository, build it, deploy it, test it with IQS and email test reports to staff - without any human intervention whatsoever.

Multiple playlists can be defined to perform varying levels of testing. For example, a shorter playlist may be used nightly for basic application testing, while a more comprehensive playlist can be used at the weekend for in-depth testing.

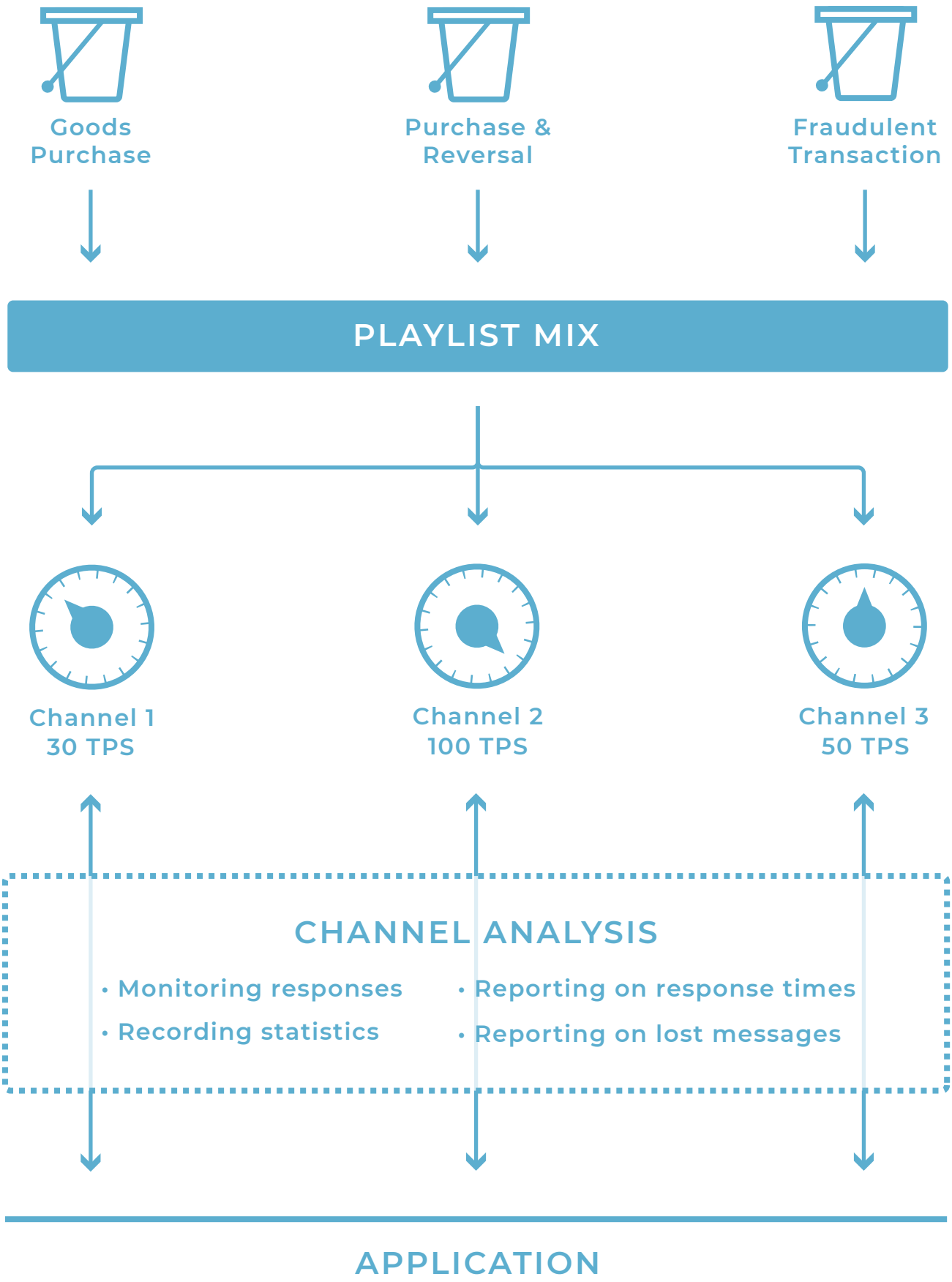
Performance Testing

IQS provides a powerful performance testing option, enabling a selectable number of transactions to be sent to an application over configurable channels every second. The types of transaction used in a performance test are configured in a test execution list, allowing a realistic transaction pattern to be constructed, which is then applied by randomly selecting from a large set of input data.

Performance tests for payment card applications will normally involve the selection of transaction types such as financial authorisations, authorisations followed by reversals, pre-authorisations and fraudulent transactions. The selected transaction is fed with card data obtained from a data source containing an appropriately sized card set.

The sending of transactions is decoupled from the receiving of responses, so a guaranteed send rate can always be reached. Responses received during performance testing are checked for success or failure and are automatically matched with sent messages. Results are then accumulated throughout the test run.

Response times can be measured, message loss under load detected and realistic performance curves can be established for an application when using IQS performance testing.


Goods Purchase
Purchase & Reversal
Fraudulent Transaction
PLAYLIST MIX
Channel 1 30 TPS
Channel 2 100 TPS
Channel 3 50 TPS
CHANNEL ANALYSIS
• Monitoring responses
• Recording statistics
• Reporting on response times
• Reporting on lost messages
APPLICATION

Expertise From Infraxis

Infraxis are here to make your IQS experience productive, cost-effective and stress-free.

IQS customers can access Infraxis payment expertise through a range of testing services offered to compliment the IQS solution.

Infraxis services include planning and managing test strategies, development and maintenance of test configurations, test execution, training and of course, full support of the IQS solution.

Please contact us to learn more about IQS and the associated services from Infraxis.

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