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APPENDIX: FUNCTIONAL DESCRIPTION OF THE GENERIX INVOICE SERVICE (GIS)

Here is the list of functionalities offered by Generix Invoice Service and Associated Services: Generix Archive, Generix Supplier/Customer Invoicing Portal, Generix Onboarding. Verbatims followed by an asterisk belong to the roadmap and will be available soon.

Available environments

When subscribing to the service, each Customer has a production environment and a pre-production environment. In addition, the Customer has a dedicated section within the electronic safe service operated by GENERIX.

The multi-tenant architecture guarantees a total sealing and protection of the environments on a shared environment.

Each environment is accessible to the customer's users according to the parameters of the authorizations based on a powerful management of the rights and profiles of use. SSO and LDAP connectivity is also available and require a project implementation.

User access management

Access is only possible with a login/password. Password management complies with the RGPD and GENERIX CISR rules.

The service provides identification with advanced features such as: password validity period, size management (8 characters), verification on input, management of forgotten password, "Remember Me" function, ...

Each user has a profile with operating rights and access authorizations. These user profiles can be configured using numerous criteria.

The service also adapts the interface to the user's language according to the supported languages. The user can manage online the settings of his profile and avatar representation.

Integration with the customer's IS

In order to guarantee a total integration with the Customer's applications, the service takes into consideration the constraints in terms of security, network, exchange protocol, frequency and organization of exchanges and data format.

Supported network protocols:

Generix Invoice Services supports the main communication networks (Global Intranet, FrameRelay, MPLS, Internet, ENX) offering interoperability to our customers. It implements secure solutions for exchanges guaranteeing confidentiality and availability by combining, for example, IPsec VPNs, ENX, specialized HSRP links, etc.

Supported communication protocols:

The point-to-point transfer protocols supported by the service are multiple: EDIINT AS1, EDIINT AS2, EDIINT AS3, EDIINT AS4, EBICS T, EBICS TS*, FTP, S-FTPS, HTTP, HTTP-S, O-FTP1, OFTP2, PeSIT HS (SSL, SSH), SMTP-MIME, X.400 P1, X.400 P7, REST ... The most used for exchanges towards the Customer's applications are :

- FTP file transfers: SFTP, FTPS, client or server ;
- File transfers via a PESIT monitor (SSH or SSL) ;
- Message Queuing (JMS, AMQP);
- REST API;
- RTF, ALE/TRFC in the case of SAP;
- The protocols supported by the service allow exchanges to be carried out in different modes: batch mode, command mode**, run-of-the-mill** mode (at the initiative of the VAN, the server or the user), transactional mode, pseudo-real-time mode (including IP sockets, etc.), API/service mode (publication, consumption) or scheduled mode according to periodic collection and deposit tables.

Supported exchange formats:

All exchange formats are supported. The service respects the structure of the Customer's source or target files. It is therefore unnecessary for the Customer to format the information before transferring it to its partners.

Several pivot files or connectors are available to simplify exchanges with the main ERPs: Aurea, Cegid, Divalto, Infor (Baan, Lawson M3, SSA, ...), Microsoft (Axapta, Navision), Oracle (E-Business, Peoplesoft Enterprise, JD Ewdards Enterprise One), QAD, Sage (line 1000, X3), Sap (EDI certification, ALE), ... as well as a set of sectorial or vertical applications such as Eureka, Hardis, ID System, Ilog, Manhattan, Ordirope, Prodware, Proginov, Qaliac, Retek, Resolution Informatique, Sales Force, VIF, ...

A connector is a conversion program that recognizes the particularity of the client's application file.

Translation, data control

Generix Invoice Services integrates data conversion and manipulation technology based on an open and powerful L4G (fourth generation programming language).

A translation program converts a data format into another data format by applying a series of checks (semantics, presence, consistency, etc.), calculations, enrichments, purging, etc. In the field of electronic invoicing, the programs check the presence of mandatory information and the associated management rules. These controls are done at 3 levels: European, local and Client.

All types of conversions are possible in any combination: EDI/XML, XML/XML, flat file/EDI, BD/XML, BD/flat file, flat file/flat file, etc.

Among the standards already supported are:
- EDI standards : ANSI X.12, B2, EANCOM-EDIFACT, EDIFACT, GALIA, GENCOD, INOVERT, ODETTE, NOEMIE, TRADACOM, VDA, ...
- XML framework : BAI, XCBL, EAN-UCC, GUSI, cXML, ebXML, Rosettanet, ...
- In the field of electronic invoicing: CEN 16931 (UBL 2.1, UN-CEFACT CII), SWIFT, UNIFI/SEPA, XBRL, XML GS1, Fakturae, Facturae, FatturaPA, Peppol Bis, Swisscom, Finvoice, ... Mixed invoice PDF/GS1, Factur-X

The application is responsible for storing the business repositories of the various processes exchanged in order to guarantee the level of semantic, functional and syntactic controls expected.

Finally, the service is capable of managing complex management rules, data enrichment and transcoding tables during translation or in pre- or post-process mode.

Management of electronic invoicing processes

The platform integrates a process modeling workshop based on the BPMN2 notation standard.

Each process of dematerialization of invoices in emission or reception is thus modeled for the account of the Customer allowing the taking into account of all the events, the integration of business rules, the scheduling of the tasks, the solicitations in workflow mode.

The tool acts as an orchestration engine that meets the expectations of the client: routing messages, controlling and enriching data, translating files, managing a simplified workflow for a business process, transporting data, invoking Web Services, etc. It naturally allows for the management of events, conditions, fallback or back-up scenarios, etc., and the sequencing of actions operated by multiple rules (choice, switch, synch, until, while, etc.)

Nearly 50 processes dedicated to the dematerialization of invoices exist. They support the different ways of creating an original invoice depending on the country, the sector of activity, the authorized legal channels, ...

Numerous object components are available to maintain and design the dematerialization processes of invoices: control of compulsory mentions (France, EU, others), management of business rules (GS1, GALIA, GOLDA, ...), signature of invoices, indexing, signature verification, digital stamping, copy to an EDM, payment to a safe, ...

Data routing, files

The service provides intelligent file routing.

It takes into account the nature of the files and the content (EDIFACT segments, XML tags).

To perform the routing, the service relies in particular on the document names, the identity of the correspondents, the content of certain fields, the collection channels (scanned directories, message queues, EDI mailboxes, e-mail, etc.), etc.

Creation of electronic invoice originals - Track 1: Audit trail

First of all, it is a structural project requiring the company to audit its organization in order to implement a new computerized process to create and maintain a reliable audit trail.

With its solutions, GENERIX supports the implementation of means to control the reliability of the audit trail (control of mentions, identity of the parties, management of duplicates, etc.) and the archiving of the documents that make up the audit trail (orders, delivery slips, invoices, etc. documentation of the audit trail) with the passage from one document to the next in both directions

Generix Invoice Services provides a series of functions to help companies set up and control their audit trail and then demonstrate its reliability:
- Guarantee the authenticity, integrity and legibility of invoices,
- Demonstrate completeness, integrity and accuracy of invoice data,
- Demonstrate that the invoice was sent to the right person at the right time,
- Ensure that the invoice is not duplicated and/or double processed,
- Ensure the presence of mandatory information,

- Archive an invoice and all the elements linked to it (quote, order, order confirmation, delivery note, etc.),
- Ensure the management of attachments,
- Manually add documents to an archive to strengthen the reliability of the trail (e.g. e-mail exchange with a customer),
- View the archived audit trail via a GRAPH display illustrating the dependencies between documents and attachments.

Creation of electronic invoice originals - Track 2: signed file

For channel 2, the service ensures the electronic signature of the invoices as well as the verification of the signature on receipt. The signature is called advanced and is performed with a qualified certificate. The platform integrates equipment certified by the French National Agency for Information Systems Security at RGS 2** level:
- HSM BULL, Trustway Protecio Hardware Security Module for key generation, secret storage and signature and encryption services, EAL4+ certified, FIPS 140 L2-3,
- Certimonis server seal certificate, certified CC EAL 5 + and PP-SSCD and qualified at the reinforced level by the ANSSI.

Various "signature" objects are available from the process modeling workshop: Hash MD5, SHA1/2, PKCS 11 padding, ISO, RSA encryption, encoding, S-MIME encapsulation, PDF A1 encapsulation, ...
The service allows the use of different electronic signature formats (see the standardization work of the ETSI section): XADES (XML Advanced Electronic Signature), PADES (PDF Advanced Electronic Signature), CADES (CMS Advanced Signature).

Two categories of signature are supported: sealing signature or certification with the use of a server stamp certificate or consent signature or approval performed with a certificate issued to a natural person.

Creation of electronic invoice originals - Track 3: EDI

For Channel 3, the service provides:
- Verification of the identity of the parties,
- Formatting of EDI files,
- The control of the compulsory mentions according to the regulation,
- The production of an individual summary list,
- Management of a partner table,
- Archiving of the partner table, the summary list and the invoices.

Flow monitoring

The monitoring of flows is integrated into an exchange governance console that ensures, in particular:
- The follow-up of exchanges or message tracking,
- Consultation of the archives,
- Administration of the Client's repository,
- Deployment of the Client's partners,
- Management of technical or application alarms,
- Reporting via dashboards,
- Access and authorization control,
- As well as the use of business functions such as: restart a treatment, put a partner in production, download one or n files, upload one or n files, ...

On the home page of this Web console, the user has centralized access to all the monitoring services as well as several indicators (KPIs) reflecting his traffic and the performance of his environment.
The user can modify the aggregation criteria of the indicators (top X partners, 30 days or 7 days period, ...) and save the consultation filters applicable to each user profile.

Tracking of invoices, files

The console allows the follow-up of exchanges through multiple and customizable functionalities:
- The consultation of the bases of each environment: follow-up of exchanges, archives, partners, treatment scenarios, specific bases, ..,
- Tracking of exchanges through multiple fields: size, date, message type, partner, status, ... and sorting operators (>, <, =, ...)
- The creation of consultation filters and multi-criteria searches (partner, document number, etc.),
- Follow-up of acknowledgements: issued, integrated, archived, etc.
- Monitoring from document status (technical and functional): Ok, no Ok, In progress, ...

- Consultation of files, logs: before translation, after translation, after creation of digital original, according to stages of the BP,
- Alarm monitoring,
- Downloading a selected file from the tracking database,
- Administration, maintenance of particular databases such as transcoding databases,
- Clear consultation of EDI messages in the form of PDF forms or XML documents (style sheet).

Alarming, notifications

Alarms corresponding to technical incident alerts or business event notifications can be configured.
The distribution channels for alarms are mainly email or SMS. The distribution list is configurable according to the alarm. The alarms are sent as they happen or consolidated and sent in batches.

Reporting and BI (OPTION : Generix Reporting service)

In addition to the KPI indicators available on the "home page" of the monitoring console, the subscriber can request a Business Intelligence service. This service is optional and subject to a fee.
Several graphical dashboards are preconfigured (e.g., exchange traffic monitoring, monitoring of key SLAs) and others can be programmed.

Archiving with evidential value

The service integrates an archiving system with probative value for invoices operated by GENERIX, a trusted third party on behalf of its customers, member of the National Federation of Trusted Third Parties.
The files are placed in an electronic safe within a section dedicated to the Customer.
The guarantee of integrity and the constitution of proof of the archived files are ensured over the chosen period (3, 5, 7 or 10 years) using a combination of technologies: signed digital fingerprints, third-party time stamping with token return, proof log and WORM writing.
The consultation or the restitution of the archives are carried out via the console of follow-up of the exchanges according to the plan of classification and indexing agreed.

Access to the archives in case of breach of contract (OPTION)

In the event of termination of the Contract for any reason, the Customer will be entitled to the following services, subject to payment of the corresponding price:

- Access to its archives for their remaining archiving period. The Customer will no longer be able to add new invoices and only the standard level of service will be applicable, notwithstanding any other level of service chosen by the Customer prior to the termination of the Contract. This service will be invoiced annually in arrears by GENERIX, as of the termination of the Contract, for two thousand five hundred euros (2,500 euros) excluding taxes. The Customer will then be able to extract its archives independently. The Customer may terminate this service by sending a registered letter with acknowledgement of receipt to GENERIX with a minimum of three months' notice before the end of the current billing period. In such a case, GENERIX will not be required to retain the Client's archives after this date.
- The return by GENERX of its invoices on a digital support and in a documented format allowing the reintegration of the invoices on a new solution. This service is billable. Any other assistance service provided by GENERIX directly related to the Services provided by GENERIX. These services will be invoiced on a time basis and at the rates in force at GENERIX on the day they are performed.

Connectivity

The service takes care of the transport of electronic invoices in transmission or reception. To ensure broad connectivity, the service supports:

- About thirty transport protocols including EDIINT AS1, EDIINT AS2, EDIINT AS3, EDIINT AS4, EBICS T, EBICS TS, FTP, S-FTP, FTPS, HTTP, HTTP-S, JMS, AMQP, O-FTP1, O-FTP2, Pedi-X.435, PeSIT HS, POP3, RNIF, SOAP, SMTP-MIME, REST, WEB Service, X.400 P1, X.400 P7, etc.
- Interconnections with 30 dematerialization operators and over 100 B2B operators worldwide,
- Point-to-point connections,
- Interconnections with major EDI VAN operators including Atlas400, Allegro, Open Text, EdicomNet, IBM, …
- Sending/receiving secure emails,
- Fax transmission/reception,
- Collaboration via B2B portals.

Connection with B2G billing services, e-Reporting, Clearance

The service includes the addressing of invoices to the public sphere (B2G) in compliance with Directive 2014/55/EU, as well as the sending of reporting or SAF-T type files and the connection to Clearance platforms, depending on the geographical area.

The service is interfaced and certified (depending on the country) with government platforms such as CHORUS Pro, Mercurius, Peppol e-delivery Network, SDI, Face B2B, ESPAP, SII, …

Scanning Service (OPTION: See process list)

An optional service for processing incoming paper invoices is available.

Paper invoices can be sent to a processing center to be digitized: opening of folds, depollution, scanning, physical archiving, … Then, the digital image is directed to different data capture technologies: LAD, RAD, video coding and video correction, operated by the Customer, GENERIX or its partner.

OCR and video coding service (OPTION: See process list)

The collection of billing data from unstructured documents, simple PDFs or scanned images is proposed via several data extraction technologies based on the Deep Learning approach.

The digital documents are sent to the service by the different supported media: email with attachment, virtual printer, drive, portal deposit, … by the Customer or the Customer's suppliers

Generix Invoice Services addresses digital documents to an OCR engine including an artificial intelligence via an API call. A queue is dedicated to each customer and associated with the data request scheme expected by the customer. This schema integrates specific business controls for each customer that may involve interfaces with the customer's business repositories. The OCR engine returns the data in XML or JSON format to the services via the API.

Then, a service of video coding or video correction is proposed. This operation is carried out either directly by the Customer or by the Customer's partner.

SmartPDF Service with Virtual Printer (OPTION: See process list)

This solution is often recommended by the client in order to easily deploy the electronic invoice with his smaller partners. The advantage for the customer is to receive the structured data extracted from the PDF document. It is intended for the processing of so-called mixed image + data file invoices and for invoices that do not require the collection of data per line.

The supplier has a virtual printer delivered by GENERIX with which he prints his invoice from any source in a PDF file. The invoice is transferred to the service, which extracts the data, validates it and allows the supplier to correct it online, and then sends an image (signed or not) and an embeddable data file to the recipient's information system. Subject to being mandated by the issuer, GENERIX produces an original digital invoice from the PDF invoice.

The biller has a portal to view the transmitted invoices, download the originals and access an electronic safe. This service is called SmartPDF.

To send these invoices, the sender can use:
- The GENERIX virtual printer which is installed at the biller's premises, generally small or medium-sized companies,
- A drive mode solution,
- Or a manual file upload to the SmartPDF portal.

Desktop publishing service (OPTION : Quotation on request via partner)

As an option, a paper invoice service is available.

From an electronic file produced by the Customer, the service composes the paper invoices to be edited. It transfers the electronic data to an industrial equipment in charge of preparing the envelopes, printing, enveloping, depositing and mailing.

The service allows for significant savings through pooling, grouped purchases of consumables and the use of an industrial postage rate.

The service covers the management of the electronic double original authorized by the recent regulations.

Push mail invoice

The service allows the emission of invoices by e-mail to the customers of the signatory of the contracts.

The distribution of invoices by e-mail can be done in several ways:
- Mail with attachment,
- Mail with URL to customer portal (see Customer Invoicing Portal),
- Mail with temporary URL.

Collaborative portal for issuing customer invoices (OPTION: See process list)

In order to accelerate the transition to 100% paperless invoicing, customer invoice dematerialization projects are regularly combined with a web portal available to customers.

The main functions proposed by the GENERIX offer are:

- Distribution of customer invoices "à la carte" according to several processes: PDF invoice by e-mail, portal publication with notification, fax transmission, desktop publishing, importable invoice in an agreed format, etc.
- Management of the general conditions of use, validation by the Customer,
- Management of the mandate of creation of the originals on behalf of the Customer,
- User administration,
- Management of documents and associated attachments, duplicates,
- Fiscal dematerialization of the Client copy under mandate, with archiving service,
- Dematerialization of the electronic double,
- Online customer invoice storage service with possible re-editing, multi-criteria search, full view or header, duplicate management, ...
- Online storage of invoices for 12 months,
- Display of business KPIs according to customer consumption analysis.

Collaborative portal for supplier invoice management: (OPTION: See process list)

In order to accelerate the transition to 100% dematerialized invoicing, supplier dematerialization projects are regularly combined with a Web portal available to suppliers.

The portal proposed by GENERIX provides the following functions:

- Single point of entry for invoices (OCR, fax, PDF, portal, ...),
- User administration,
- Management of shared repositories with the supplier (product, bank, logistics, etc.),
- Documentary sharing,
- Collection of invoices from suppliers by file deposit (structured or PDF), data entry (blank or valued mask), invoice entry from the order or the shipping notice or the goods receipt,
- Possibility of dematerialization of the supplier copy under mandate, with archiving service with probative value,
- Automatic data quality control according to the client's business rules,
- Buyer validation workflow,
- Collaborative management of invoice integration: status feedback (paid, in payment, etc.),
- Corrections by the supplier on error notifications, management of disputes, ...
- Production of a file taking into account the client's budgetary allocations,
- Shared visibility with the supplier,
- Publication of payment notices,
- Online storage of invoices for 12 months,

This portal is a component of our Collaborative Purchase to Pay offer managing the entire procurement, logistics and invoicing cycle with the supplier (product sheet, order, shipping and receiving goods, forecasts, etc.)

For more information, please see our Collaborative Purchase to Pay product sheet.

Enrollment (OPTION: See process list)

To facilitate the deployment of the invoice to a maximum number of partners in a short time, the solution includes an automated deployment service: Onboarding Service

This platform covers the following functions:

- Reduce workload, manual operations, and enrollment time by automating vendor deployment campaigns,
- Modeling of the campaign with production of the associated Web portal: choice of portlets, management of repositories, distribution of specifications, test sets, contracts, deployment kit, surveys, calendar, FAQ, etc.
- Self-testing of invoice files by the supplier with analysis CR, multi-profile testing and certification,
- Control console by campaign, suppliers, stages, ...

For more information, please see our Onboarding Service product sheet.

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TECHNICAL APPENDIX: REGULATORY COMPLIANCE AND SERVICE COMPLIANCE CERTIFICATES

Regulatory Compliance

Generix Invoice Services complies with various regulations concerning the dematerialization of invoices, in particular: tax regulations (relating to value added tax), commercial regulations (commercial code), laws relating to inter-company or company-administration invoicing, electronic signatures and data archiving.

In a non-exhaustive way, the service respects the European regulations as well as the national decrees to follow:

The following European directives:
- European Directive: 2006/112/EC of 28 November 2006;
- European Directive: 2010/45/EU of July 13, 2010, amending Directive 2006/112/EC on the common system of value added tax, as regards the rules on invoicing;
- European Directive: 2014/55/EU of April 16, 2014, on electronic invoicing in public procurement.

The following French provisions (laws, transpositions and application decrees):
- Law n°2012-1510 of 29/12/2012 of rectifying finance for 2012, relating to the transposition of the directive 2010/45/EU, in particular its article 62 ;
- Executive Order 2013-345 of April 24, 2013;
- Decree No. 2013-350 of April 25, 2013 and Order of April 25, 2013;
- The BOI-TVA-DECLA-30-20-30 of October 18, 2013;
- BOI-CF-COM-10-10-30 October 18, 2013;
- Enabling Act of January 3 and Order 2014-697 of June 26, 2014, on electronic invoicing with the public sector;
- The order of March 22, 2017 setting the terms and conditions for digitizing paper invoices pursuant to Article L 102 B of the Book of Tax Procedures.

The service also takes into account the decrees of application or transposition of the directive 2010-45-EU published by the member states of the European community.

In this respect, GENERIX will make its best efforts to ensure that the Services are brought into compliance with the laws applicable to the Services as quickly as possible.

Compliance of archiving with regulations

The invoices are archived on the GENERIX Electronic Safe and accessible online in compliance with the recommendations commented in BOI-CF-COM-10-30-10 article 320 and following. The solution is also compatible with the methods of archiving digitized invoices subject to the order of March 22, 2017.

Certificates of conformity

The proposed Application Solution is regularly the subject of certifications or attestations of conformity issued by third parties confirming its compliance with the regulations regarding the dematerialization of invoices.

Thus, the software published by GENERIX Group and offered in SaaS mode (via the Generix Invoice Service), as well as its previous versions, have obtained the following compliance certifications:
- In 1996: Certification ref. L96003 issued by the General Directorate of Taxes within the Ministry of the Economy;
- In 2004 : Certification by TAJ DELOITTE ;
- In 2005 : Certification by LOGICA ;
- In 2006 : Certification by the firm FORET ET LIMAGNE ;
- In 2006, 2009 : Certification delivered by GS1 France (97V2 and 97V3);
- In 2017: Certification issued by GS1 France (Track 3);
- In 2020: Certification delivered by GS1 France (Track 3);
- In 2020: Included in the list of solutions that comply with the European Commission's EN 16931 standard.

GENERIX Group, backed by the Inter-ministerial Directorate of Digital Commerce, has been selected by the European Commission's Connecting Europe Facilty program to promote the interoperability of E-Invoicing solutions. GENERIX Group has successfully participated in the EURINV, AS4EDI and EURINV19 projects and has brought its solution into compliance with the latest European standards on electronic invoicing: support for the

ISO/IEC 19845:2015 UBL 2.1 and UN/CEFACT CII syntaxes (cf. standard EN 16931), the EDIINT AS4 eSENS profile protocol, connectivity to the eDelivery Network and the eIDAS regulation

The data centers hosting the infrastructure carrying the Application Solution are certified in the areas of systems management, security, quality, environmental management ... (see ISO 27001, ISO 9001, BS EN ISO 9001:2000, PCI DDS, ...).
In accordance with the regulations, the service uses certificates and signature equipment that comply with the RG2** of the French National Agency for Information System Security and are on the LSTI certification list.

Interoperability commitment
GENERIX issues and receives electronic invoices to and from other electronic invoicing operators in France and around the world.
To do so, GENERIX interconnects its network (Generix Collaborative Network) to that of its colleagues. We offer **a free interconnection to all the other operators subject to reciprocity on their part**.

In addition, GENERIX has set up direct connections with more than 80 other operators also on a free basis.

Since 2013, Generix has been a signatory of the **"interoperability charter for electronic invoicing solutions" set up by GS1 France**. This charter provides for free exchanges between signatories. It is currently signed by more than 30 operators and can be consulted on the website www.gs1.fr.

Since November 2019, GENERIX has been a signatory of the **"interoperability charter for the transmission of electronic invoices" of the Fédération Nationale de la Facture Electronique**, which incorporates the requirements of the European Commission's EMSFEI report (European Multi-Stakeholder Forum on Electronic Invoicing - E02650) and recommends the use of the interoperability contract of the European EInvoicing Service Providers Association.

Since 2018, GENERIX has been an **Access Point Certified Provider of the** European PEPPOL **Network** (PEPPOL eDelivery Network) enabling electronic invoicing to 32 countries.

For operators who have not signed the free interoperability commitments, GENERIX may have to charge interoperability costs to its customers. The cases identified today are TUNGSTEN and OPEN TEXT.
Any modification of the interoperability conditions will be the subject of an amendment to this contract.