

JOIN Whitepaper

Containing all technical information on how to use the JOIN Suite components

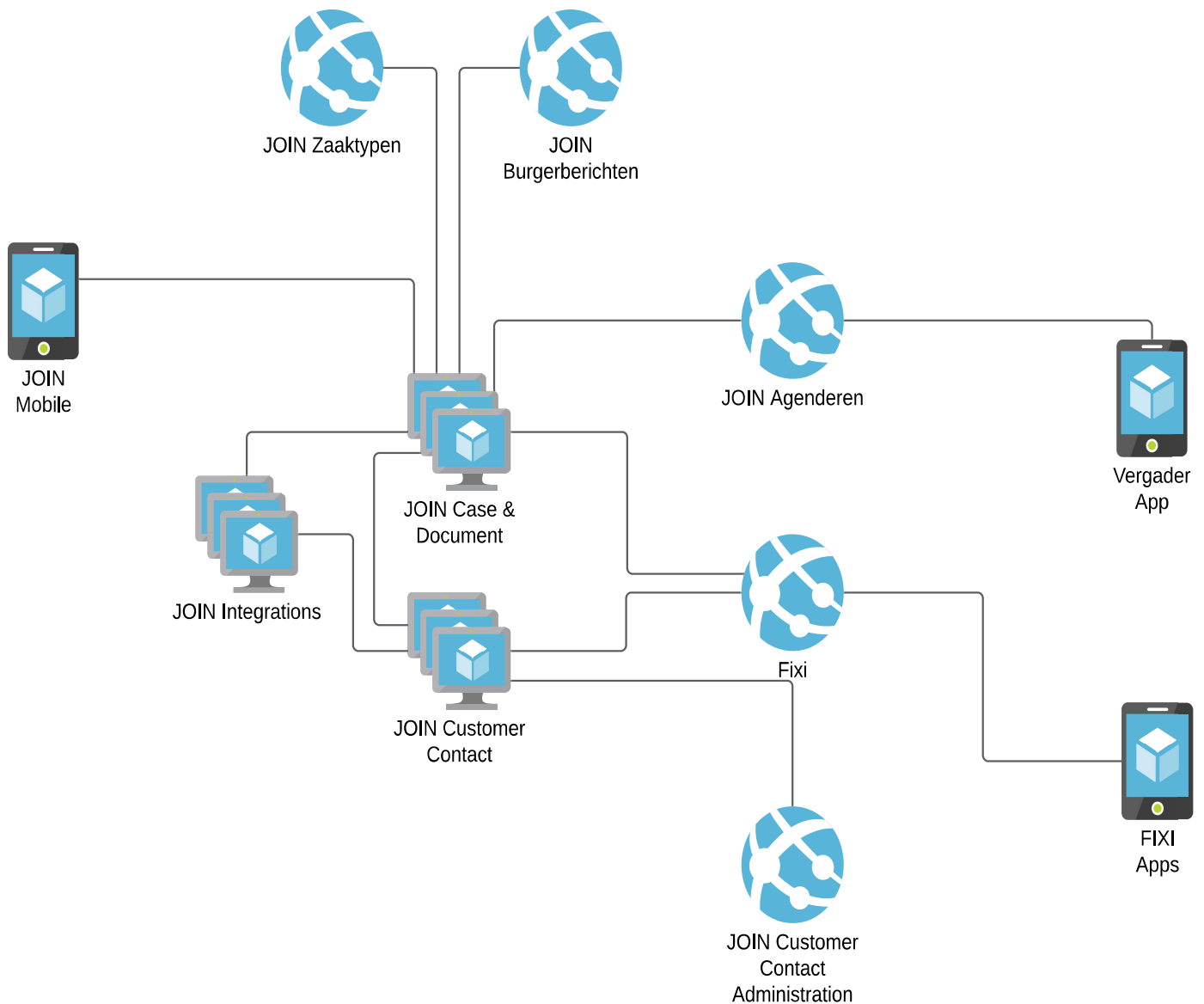
Introduction

JOIN Enterprise is a combination of optimized solution that include case management, document and record management, archiving compliance, as well as customer contact and session management and many more based on integrations. The solutions are fully web-based, which allow a user to use all functionalities from any enabled work place.

JOIN Enterprise allows the organization to work seamlessly and moreover, even fully paperless. All solutions provide a way for functional administration. More details are provided in this document.

Solutions

JOIN Enterprise consist of various solutions that work together as one ecosystem. This is depicted in the visual diagram below.



JOIN Enterprise Cloud

JOIN Customer Contact together with JOIN Case & Document form the heart of JOIN Enterprise. All customer contact sessions, cases, and documents are stored in the JOIN Enterprise cloud. JOIN is offered as a cloud solution running in Microsoft Azure's data centers in West Europe.

[JOIN ENTERPRISE CLOUD](#) | More information available here

JOIN Customer Contact

JOIN Customer Contact functions as the information system for collecting and solving customer questions. This allows organizations to handle customer contact, regardless of the channel used, directly and unambiguously.

[JOIN CUSTOMER CONTACT](#) | More information available here

JOIN Case & Document

JOIN Case & Document supports a progressive way of managing information streams and processes. The application is completely web-based, making your documents and cases available and accessible online. In JOIN Case & Document all types of document and cases/files are easily created, stored, shared, edited, retrieved and archived. JOIN Case & Document is one system for the entire information provision, whether it concerns document management, cases, e-mails, invoices, contracts, personnel files, or mail: All managed in one application.

JOIN Case & Document is also available on android and IOS (JOIN Mobile).

[JOIN CASE & DOCUMENT](#) | More information available here

JOIN Integrations

For governmental organizations in specific, JOIN Case and Document is also able to use web services based on StUF (a Standard Exchange Format). With this web service, the exchange of data is set with these standards in advance, which makes the linkage between other systems very easy.

Decos Fixi

Fixi makes it possible to handle public space reports completely digital. For example citizens can make a report of a broken lamppost, or a loose sidewalk tile with the Fixi app, by telephone or through the website of the municipality.

With Fixi the municipality can immediately assign the incoming report to field workers in order to get it fixed. The field service uses their own Fixi handler app receiving incoming reports, and allowing workers to let citizens know their report has been taken care of. In addition, all notifications are automatically stored in JOIN Case & Document, which makes a total solution for public space reports.

[FIXI](#) | More information available here

JOIN Agenderen

JOIN Agenderen offers an environment for preparing meeting agendas, publishing, and distributing meeting documents online. Documents from JOIN Case & Document (in the official phase) can be recorded and ordered (in the agenda phase) then published for various solutions (for the meeting phase).

[JOIN AGENDEREN](#) | More information available here

Vergader App

An iPad application that connect to the published documents from JOIN Agenderen so that these documents can be viewed digitally during the meeting.

JOIN Burgerberichten & PIP

JOIN Burgerberichten is a powerful tool for providing digital forms to citizens and organizations and proactively informing citizens about their current requests. Citizens can securely log in with their DigiD. The solution is seamless integrated with JOIN Zaaktypen and JOIN Case & Document.

JOIN Zaaktypen

JOIN Zaaktypen focuses on simple, fast and complete management of case types. The information model of JOIN Zaaktypen is based on GEMMA ZTC 2.1. This extensive information model is also applied within other government domains such as water and safety instances. JOIN Zaaktypen is completely integrated with JOIN Case & Document, this allows the case system to be managed entirely with the JOIN Zaaktypen configuration.

[JOIN ZAAKTYPEN](#) | More information available here

JOIN Regelhulpen (Menuet)

JOIN Regelhulpen provides clients a powerfull, mulitenant solution to organize events (evenementassistent), request student transport (Leerlingenvervoer). It also has solutions for social support of Gemeente Nijmegen (TOZO, Income Assistent) and for Rijkswaterstaat (AIM, Activiteit Internet Module). The core engine of this solution is called Menuet.

[REGELHULPEN/MENUET](#) | More information available here

JOIN On Premises

JOIN Case & Document and JOIN Customer Contact are also available to install locally, on the organization's infrastructure, within their own network.

[JOIN ON PREMISES](#) | More information available here

JOIN Collaboration

JOIN Collaboration is used for sharing (documentary) digital information. The flexible and comprehensive configuration enables both small and large organizations to digitally optimize their information household. Users can share multiple files with multiple participants and collaborate accordingly. By using this functionality, it is possible to fully digitize complex processes.

[JOIN COLLABORATION](#) | [More information available here](#)

Authentication

ADFS

Microsoft Active Directory Federation Services makes it possible to apply central user authentication of the organization for users who work with JOIN Case & Document, also known as providing Single Sign On capabilities (SSO).

Users are automatically created upon first login within JOIN Case & Document and can automatically obtain authorizations based on their memberships from the Active Directory, and can be delegated for the central workload.

Password management, termination of employment, multi-factor authentication policies are automatically applied in JOIN Case & Document using ADFS.

In order for JOIN Case & Document to connect with the organization's ADFS solution, it is necessary that a Relying Party Trust is created for JOIN Case & Document on the ADFS Server. It is also necessary that the ADFS server is accessible via HTTPS from the JOIN Enterprise Cloud.

Security

ISO certification

Decos is a ISO-27001 certified company. This well-known security standard governs a broad range of security measures covering the entire company and its processes. Using an Information Security Management System (ISMS), all processes playing a role while developing, hosting and supporting JOIN Application are covered.

[Security](#) | [More information available here](#)

Performance/Scalability

Performance testing

The software is being load tested automatically on a day to day process. This load test is fully automated and is covering the core processes of the applications. By executing the test on a day to day base, performance degradations are detected quite short after they have been introduced, making it easier to track back and improve.

[Performance/Scalability](#) | [More information available here](#)

License Policy

JOIN Case & Document

The number of usernames that can be entered corresponds to the number of licenses, allowing users to have access to the solution at all times. The total number of usernames of all installations added together must remain below the agreed limit. A user name can be a full user or a user with bulk scan rights.

[License Policy](#) | More information available here

Workstation

Workstation requirements

The JOIN Solutions fully operate for end users if an Edge, Chrome, Firefox or a Safari type browser is used in a version that is supported by the browser provider.

For optimal use on the workstations, it is advisable to run the applications in a screen resolution of at least 1920x1080 pixels with a 24-inch monitor.

[Workstation](#) | More information available here

Updates

Updates

All operating systems in the JOIN Cloud are always automatically provided with the most recent updates concerning the Operating Systems.

For the JOIN Solutions, a distinction is made between major releases, minor releases, hotfix releases, and shared cloud solutions.

[Updates](#) | More information available here



[Change History](#)



For more information related to Decos JOIN Enterprise, its solutions or our cloud services please use the references below or contact your account manager or partner.

Website: <https://decos.com> 

Decos WIKI: <https://wiki.decos.com>

Customer support page: <https://joinsupport.decos.com/> 

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Whitepaper

JOIN ENTERPRISE CLOUD

JOIN Enterprise Cloud

JOIN Customer Contact together with JOIN Case & Document form the heart of JOIN Enterprise. All customer contact sessions, cases, and documents are stored in the JOIN Enterprise cloud. JOIN is offered as a cloud solution running in Microsoft Azure's data centers in West Europe.

VPN IPSEC secure connection

JOIN Customer Contact and JOIN Case & Document are available as a private cloud solution. A private cloud solution is isolated and used by only one organization. This private cloud solution can connect to other applications in the organization using a Site-to-Site VPN IPSEC tunnel.

The use of a VPN IPSEC connection between your network(s) and the JOIN Enterprise cloud allows for a private & secure connection to access JOIN Enterprise for your users and your own local networks.

Detailed requirements for VPN Device configurations can be found here: <https://docs.microsoft.com/en-us/azure/vpn-gateway/vpn-gateway-about-vpn-devices> [↗](#)

IP whitelisting

An alternative to VPN IPSEC would be to use whitelisting for user access to the JOIN Enterprise cloud solutions or web applications. Various levels of flexibility and security measures are possible this way. However, we do recommend using a VPN IPSEC connection.

Microsoft Azure

Decos is a Microsoft Gold partner for Cloud hosting and Application Development. We offer JOIN Enterprise Cloud hosting within the Microsoft Azure Cloud in isolated environments, running exclusively for a single customer. The environment is fully managed by Decos using role-based access for Decos employees covering support, consultancy and IT professional teams.

Key components of the application are highly available. This gives Microsoft Azure an uptime guarantee of >99.5%. The same uptime is guaranteed on storage services of Azure SQL and Azure Blob Storage.

Backup and restore

Azure Backup is used for backup of databases and files. Azure Blob Storage is stored three times redundantly, and uses soft deletes (so that deleted files can be retrieved). The application itself has facilities in the DMS section for check-in, check-out, version management and rollback of files.

Production and acceptance environments

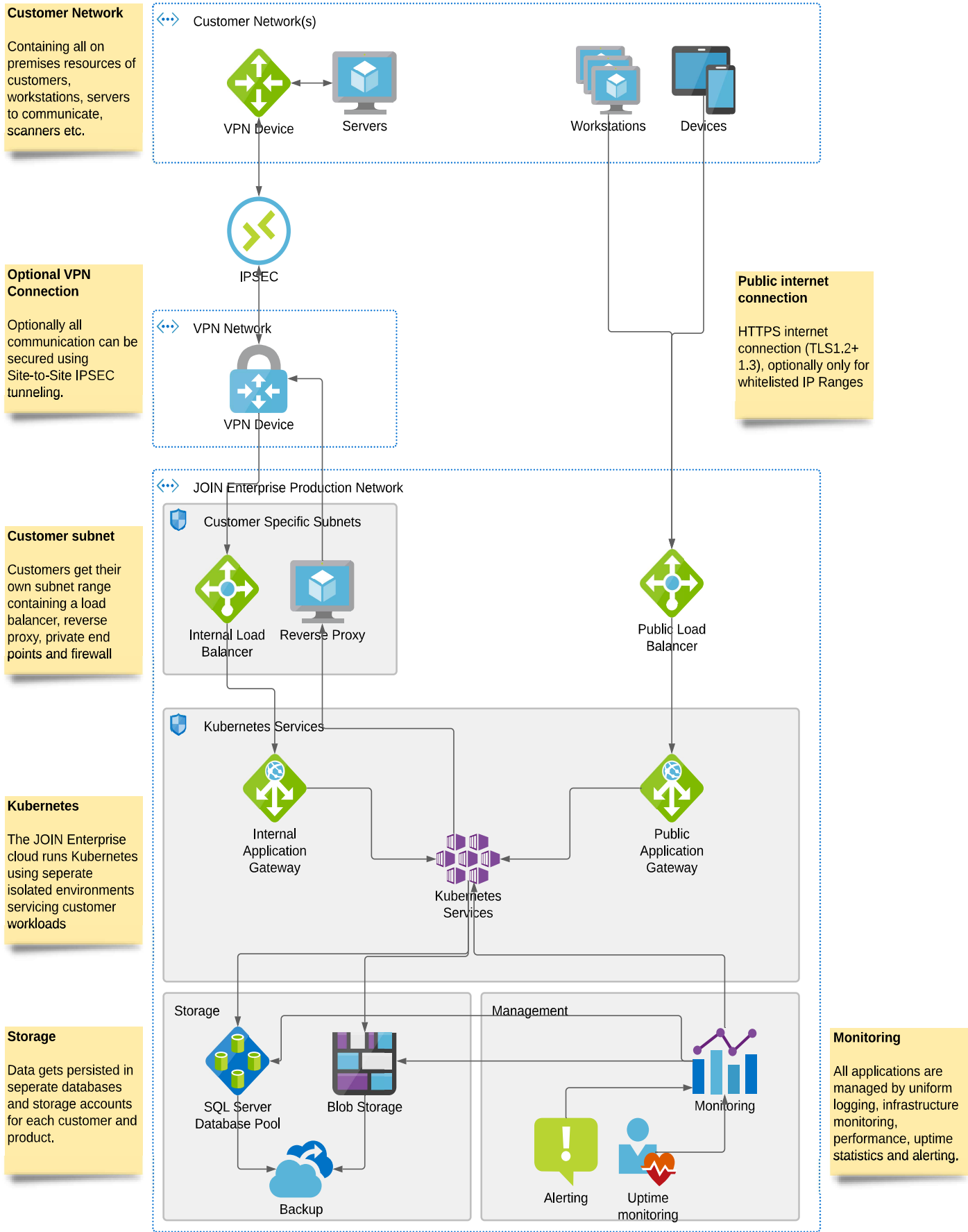
If an acceptance environment is requested, a duplicate environment with reduced capacity (vCPU & memory) is set up and separately provided from the production environment. Decos offers separate tooling in case a client wants to duplicate the production data back to the acceptance environment including anonymization measures.

On-premise installations

Decos also supports on-premise installations of JOIN Enterprise. See chapter 11 of this document for the details related to on-premise deployments of JOIN solutions. Installations in any cloud environment other than the Decos JOIN Enterprise Cloud are also considered as client on-premise installations.

Architecture

The architecture of the JOIN Enterprise cloud is visualized in the next diagram.



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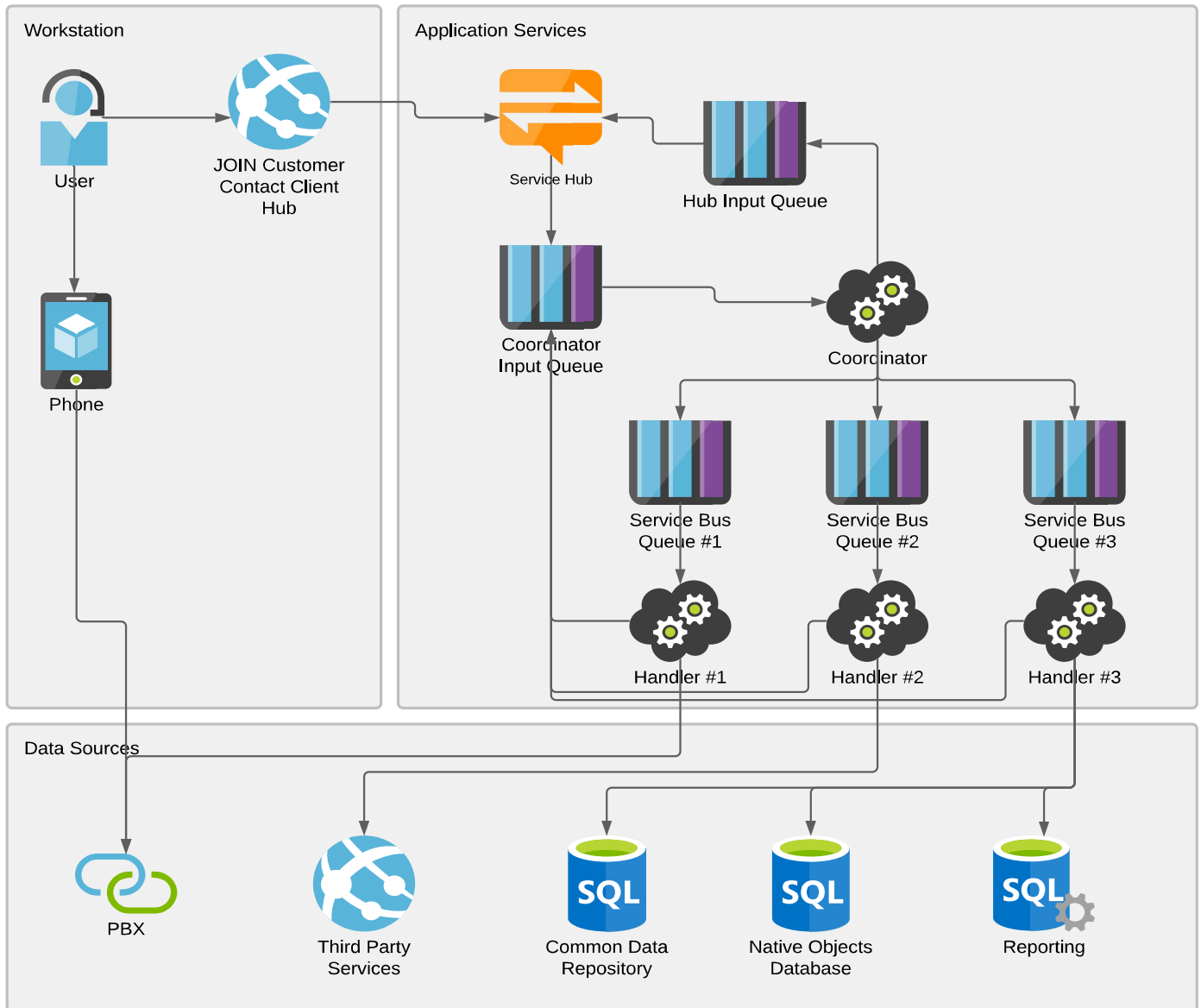
JOIN CUSTOMER CONTACT

Solution

JOIN Customer Contact is used from the web browser and uses websockets to connect to the JOIN Customer Contact server. This means that it is not only possible to communicate with JOIN Customer Contact from the workplace, but also vice versa.

The heart of the solution JOIN Customer Contact is a message box (Rebus). This is an open source component for building scalable and flexible distributed systems. It is not a stand-alone service bus or broker, but is used for internal message exchange between the various system components. The internal message traffic in Rebus is supported by Microsoft Message Queuing (MSMQ) and Rabbit MQ.

By working with internal message exchange between the different parts of JOIN Customer Contact, these parts run as separate components, which has a positive influence on the stability, flexibility, scalability and maintenance of the system. This also makes it possible to develop customer-specific components.



JOIN Customer Contact application managers (admins) use a separate management environment for JOIN Customer Contact. JOIN Customer Contact Management is only connected to JOIN Customer Contact and not to the underlying integrations.

Integrations

JOIN Customer Contact provides support for direct and indirect channels. Thanks to the vast amount of integration channels, JOIN Customer Contact contributes to the objective “handling 80% of questions at first contact”.

JOIN Customer Contact integrates with the following sources (and the list is continuously expanding):

Persons

- CiVision Broker Data from PinkRoccade

- Key2Data distribution from Centric
- GBA-V Centric Key2GBA-V
- GBA-V Pink Roccade CML
- Vicrea Neuron ESB integration platform
- JOIN Connect connection

Organizations

- CiVision Broker Data from PinkRoccade
- Key2Data distribution from Centric
- GBA-V Centric Key2GBA-V
- GBA-V Pink Roccade CML
- Vicrea Neuron ESB integration platform
- JOIN Connect connection

BAG (Adresses en Buildings)

- Link with Urbidata
- BAG-kadaster
- Vicrea BAG (Stuf BG)

Cases

- Link with JOIN Case & Document (JOIN Connect)
- Link with PinkRoccade Casesysteem (StUf ZKN)
- Any business sytem that communicates with StUF ZKN

Documents

- Link with JOIN Case & Document

Location (Georgaphy) based on WMS

- Live connection with Nedgraphics
- Live connection with Vicrea
- Live connection with Urbidata
- Mapguide

Products and Services

- Link with Seneca Smartsite Ixperion 1.3
- Link with SIM PDC
- Link with SIM SITE

- Link with SDU VIND
- Link with Impactive PDC
- Link with PDC van Daadkracht
- Link with PDC van GX
- Link with PDC van Typo3
- Link with PDC van Drupal
- Link with PDC van Greenvalley
- Kluwer PDC
- Collaborating Catalogi

Question & Answer

- Link with Seneca Smartsite Ixperion 1.3
- Link with met SIM VAC
- Link with SDU ANTWOORD
- Link with Impactive VAC
- Link with Daadkracht VAC
- Link with GX VAC
- Link with Typo3 VAC
- Link with Drupal VAC
- Link with Greenvalley VAC
- Kluwer VAC
- Batch Link with the Antwoord© Contentcollectie ('Vraag & Antwoord Combinaties' van ICTU)
- XML- Link with Kluwer Antwoord paraat

User Of JOIN Customer Contact (employees)

- Link with Active directory
- Link with Novell E-Directory
- Link with OpenLDAP en Oracle OID
- Link with AAD (Azure Active Directory)

E-mail Incoming and Outgoing

- Email Exchange server (o.b.v. IMAP of Exchange Web Services)
- Groupwise (o.b.v. IMAP)

Users of JOIN Customer Contact, Access Systems

- Link with Active Directory

- Employee presence via PC-Time
- Employee presence via Atrea
- Employee expertise from 'wie is wie' via SIM
- JOIN Case & Document 'smoelenboek' link (employee photos)
- Presence via Interflex
- Presence via Atimo
- Microsoft LYNC presence and photos

E-Forms

- SIM
- Greenvalley, incl. prefill
- JOIN E-Formulieren

CaseType Catalogue

- Link with the JOIN Case & Document Casetype

Demand Guidance (NL: beslisboom)

- Impactive demand guidance
- InfoProjects

Telephone Exchange

- Mitel Open Integration Gateway
- Unify OpenScape Voice
- Cisco UCCX
- Avaya AES
- CSTA ECMA-323/269/285 gebaseerde telefooncentrales

Appointment and Visitor Guidance

- G-PLAN (JCC-Software)
- QMatic

Social Media

- Facebook
- Twitter
- WhatsApp

Public space issue reporting solutions (NL: Meldingen Openbare Ruimte)

- Fixi

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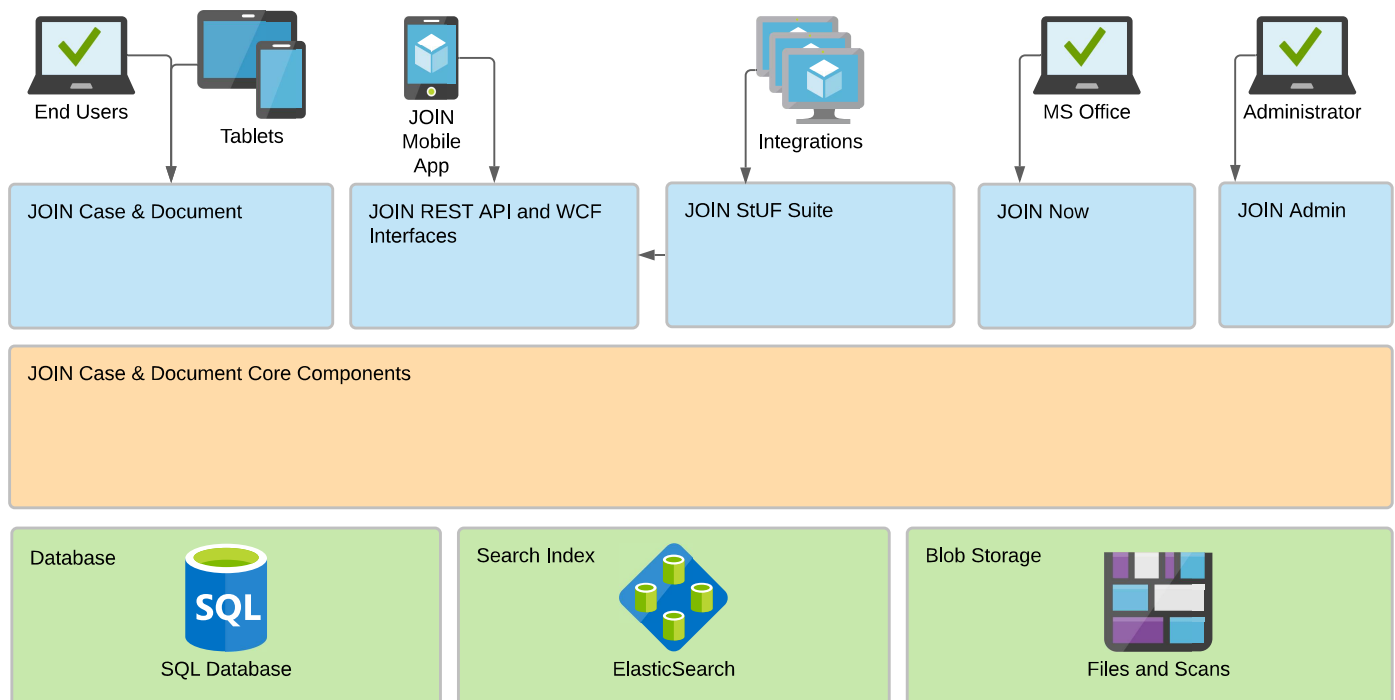
JOIN CASE & DOCUMENT

Solution

Decos JOIN Case & Document is a market leader solution in case and document management systems (ZMS & DMS) in the Netherlands. It includes capabilities for case management including the ability to manages case templates; management of meeting agenda's, formal decision making processes, and digital signatures. This is accomplished through many flexible integration setups and solution configuration.

In addition, the system can be connected to other systems through web services from JOIN Connect or via web services that communicate with StUF (a Dutch government standard know as 'Standard Exchange Format'). All components require secure HTTPS connections to JOIN Case & Document. Some connection also required mutual TLS.

JOIN Case & Document is a N-Tier Web application. This is visualized in the diagram below. This solution is also accessible from (or can be integrated in) Microsoft Office apps, GroupWise and/or file explorer from workstations.



Network scanners can submit either multipage TIFF or PDF files using one of the following options:

- **Email:** Each customer and user can send their scans to a separate e-mail address. Attachments of these mails are retrieved and put on the right storage locations.

- FTPS: Scanners can connect using Explicit FTPS and store scans directly to the storage location being monitored. The FTP endpoint can optionally be exposed using a VPN connection. Ports 21 and 30000-30009 are used.
- SFTP: scanning, port 22 for required
- SMB: Scanners connect using a SMB share and store scans directly to the storage location being monitored. A VPN connection is required to get access using a SMB share. The default SMB port 445 is used.

Connectivity and integrations

The JOIN Case & Document solution becomes more powerful when integrated with other applications or JOIN components.

JOIN Connect

The web services of JOIN Case & Document are housed in the integration platform JOIN Connect, this lets you transfer data and files in and out of JOIN. This integration platform from JOIN is aimed at giving external systems access to the information stored in JOIN Case & Document, in a simple, secure way. It also offers possibilities to add information to JOIN Case & Document. This way JOIN Case & Document can be used as the central place to manage and access information, connecting all applications placing documents and data in a generic way in JOIN. To activate JOIN Connect web services, you must have the correct license.

JOIN Connect uses either WCF (Windows Communication Foundation) or REST API. The Rest API Swagger documentation can be reached by calling the API endpoint on JOIN Case & Document.

JOIN StUF Suite

JOIN Case & Document also has web services based on the Standard Exchange Format (StUF), used by the government. With this web service the exchange of data is predetermined by this standard, linking systems in a very easy and secure way.

Traffic from the JOIN Enterprise Cloud to local components is only possible if the JOIN Private Cloud is connected to the local network with a VPN.

The following chapters describe the supported integrations and protocols.

StUF-ZKN (Case- en Documentservices)

StUF-ZKN (Business and Document Services)

The StUF-ZKN interface offers front office suppliers the opportunity to request case information from JOIN Case and Document by means of questions. In addition, the interface offers the possibility of receiving case information from, and offering it to back office suppliers through notification messages.

StUF-ZKN also acts as transport for the ZSDMS operations, as well as "MijnOverheid LopendeZaken" (MOLZ). JOIN supports StUF-ZKN 3.10 and ZsDMS versions 1.0 and 1.2.

StUF-DCR (Document creation services)

StUF-DCR (document creation services) is based on StUF-ZKN and StUF-BG. It is a message standard for the exchange of data for the benefit of the document creation process.

The document creation process means merging templates with registration data. This registration data is retrieved from JOIN Case & Document; another application is responsible for the actual creation of the document. StUF DCR ensures that data from JOIN Case & Document, and the Document Creation Requester (DCV), are merged with the Document Creation Application (DCA) template.

JOIN supports StUF-DCR version 3.10

StUF-EF

The StUF-EF interface offers the possibility for e-form suppliers to send completed e-forms 1:1 to JOIN Case & Document. The values from completed forms are then used to create new case registration, combined with accompanying documents.

The StUF-EF interface runs in a multi-tenant Cloud environment. The JOIN Connect Relay service is used to register a case in JOIN Case & Document from an offered e-form.

JOIN supports StUF-EF version 3.11 and 3.15

StUF-LVO

The StUF-LVO interface ensures automatic registration in JOIN Case & Document of environmental permit applications that are made through the Environmental Counter Online. The link automatically registers a new case based on the application from the Environment Counter Online. Associated documents are automatically retrieved from the secure OLO ftp server and added to the case.

JOIN supports StUF-LVO 3.11 and 3.12

StUF-BG

The StUF-BG integration ensures that data from the Municipal Basic Administration (GBA), the national provision for persons (GBA-V) or from the trade register (organizations) can be used in JOIN Case & Document. This data can be used and linked in JOIN Case & Document to create cases, relate to registrations, create mailings, and so on. The link offers the possibility to include both natural persons as well as organizations (social objects, companies, etc.) in the address collection. Including subscriptions to change-events.

JOIN supports StUF-BG 2.04 and StUF-BG 3.10

CMIS

Decos offers a CMIS integration, which is an OASIS specification from May 2010. It provides an interface for exchanging documents based on web services, similar to the WebDAV protocol.

Mijn Overheid Berichtenbox (MOBB)

The BerichtenBox integrations that Decos offers allows for JOIN case-synchronization to MijnOverheid BerichtenBox.

JOIN Samen

JOIN Samen is an integration solution for JOIN Case & Document to provide case-synchronization based on StUF-ZKN between two JOIN Case & Document clients. It allows for exchanging workflow state and associated case documents across the connection to the other organization and vice versa. All based on the shared workflow.

ZGW API

The ZGW APIs provide a new way to integrate applications with a case management system. The APIs are successor to the Zaaken Documenten Services (ZDS). The APIs are developed in accordance with the Common Ground vision.

From version 2021.3 onwards, JOIN Case & Document offers the ZGW APIs. Refer [article](#) to get more insights.

JOIN [Zaaktypen.nl](#) (ZTC)

JOIN Zaaktypen is an independent solution for the management of a case type catalog (ZTC). By integrating this with case system JOIN Case & Document, every case type in the ZTC can be used directly in the case system. The connection is based on web services from JOIN Case & Document to JOIN Zaaktypen. JOIN Zaaktypen is based on the ZTC 2.0 data model.

JOIN Agenderen

JOIN Agenderen is a solution for publishing agendas including related documents to various online meeting tools. JOIN Agenderen is connected to JOIN Case & Document with web services of JOIN Connect and makes information available for other applications, mostly apps, among which the JOIN Meeting App.

JOIN Burgerberichten

JOIN Burgerberichten is the solution for offering online status information about current cases to citizens or organizations, which can be viewed with DigiD or eHerkenning. In addition, JOIN Burgerberichten offers a versatile web forms toolkit that is connected to JOIN Zaaktypen. The forms are automatically generated based on the data in JOIN Zaaktypen and can therefore be automatically translated into (parts of) cases in JOIN Case & Document.

JOIN Burgerberichten is connected to JOIN Case & Document through web services of JOIN Connect.

JOIN Search

JOIN Search uses an external search engine: Elasticsearch. Elasticsearch offers fast data retrieval throughout the application, in a way traditional database systems are not designed for. Full text search operations, additional filter mechanisms, drill down and aggregations are available in the search interface.

We ensure that JOIN Search always uses a version supported by Elastic. Currently highest supported version of Elastic is 7.13.2 (JOIN Case & Document version 2021.3 and higher)

ADFS

Microsoft Active Directory Federation Services makes it possible to apply central user authentication of the organization for users who work with JOIN Case & Document, also known as providing Single Sign On capabilities (SSO).

Users are automatically created upon first login within JOIN Case & Document and can automatically obtain authorizations based on their memberships from the Active Directory, and can be delegated for the central workload.

Password management, termination of employment, multi-factor authentication policies are automatically applied in JOIN Case & Document using ADFS.

In order for JOIN Case & Document to connect with the organization's ADFS solution, it is necessary that a Relying Party Trust is created for JOIN Case & Document on the ADFS Server. It is also necessary that the ADFS server is accessible via HTTPS from the JOIN Enterprise Cloud. To access on-premise ADFS, JOIN Case & Document always uses the WS-Federation protocol.

Azure AD

Microsoft Azure AD is also supported from JOIN Case & Document. Support is provided based on the WS-Federation, OpenID Connect or SAML protocol.

Background synchronization

When using the WS-Federation protocol to interface with Azure AD, JOIN can synchronize users' information in a background task, so that their data is kept up-to-date even if they do not log in. This option is not yet offered when using OpenID Connect or SAML.

Other authentication providers

In addition to Microsoft ADFS and Azure AD, JOIN Case & Document can be linked to these authentication providers:

HelioID: Link via the WS-Federation or OpenID Connect protocol.

SURFconext: Link via the OpenID Connect or SAML protocol.

Other identity providers using OpenID Connect or SAML can be linked on request.

BAG interface

JOIN Case & Document can be linked to the National facility BAG (Dutch national registration of addresses and buildings). When using the postcode module, address details are looked up and entered on the basis of an entered postcode and house number.

When you purchase the BAG module, BAG objects can be linked to registrations in JOIN. You can identify an object by clicking on the map or by looking up address details. We use a database that is updated daily from the national facility.

Decos Signing Service


JOIN Case & Document can be connected to the Decos Signing Service. The Signing Service is our Cloud solution for digitally signing files by connecting a provider to this service.

From JOIN Case & Document you can request one or more people to digitally sign document files linked to cases, files or document registrations. As soon as all invited persons have signed a file, the signed PDF is automatically saved in JOIN. If a workflow step was linked to the signing action, it can be handled automatically at that time.

External Providers

The Decos Signing Service uses external providers for the actual signing of the digital signatures. You can choose one of the supported providers per JOIN license to provide the functionality.

Provider

1. Zynyo
2. ValidSign
3. [Ondertekenen.nl](#) 

Office Online Server

JOIN Case & Document can collaborate with Office Online Server (OOS). Office Online Server is a web-based solution that largely offers the functionality of Microsoft Word, Microsoft Excel and Microsoft PowerPoint in a web browser.


Office documents that are opened from JOIN Case & Document are opened for editing within the browser and saved to JOIN Case & Document without additional actions.

The JOIN Cloud offers standard OOS for JOIN Case & Document as part of the Office 365 module and can also connect to an existing Office Online Server of the organization. The JOIN Cloud must be able to reach this OOS server via HTTPS. In both cases, the organization itself is responsible for obtaining the required Office licenses (Office 365 Volume / ProPlus / Enterprise license).

Files opened via OOS can also be edited locally in Microsoft Office. Files are then sent to JOIN Case & Document with the WebDAV protocol.

E-mail

JOIN Case & Documents will send e-mail, either from a service account address or on behalf of the end user. E-mails are sent using SMTP using:

- ▶ The outgoing SMTP server of the customer. This can be used only in case of VPN IPSEC connection, or in case of On Premises installations.
- ▶ A common SMTP server from SendGrid can be used for sending all e-mails from the JOIN Enterprise cloud. Additional configuration is required before sending on behalf of the customer domain is allowed (SPF/DKIM). See <https://sendgrid.com/docs/ui/account-and-settings/how-to-set-up-domain-authentication/>  how this is established using SendGrid.

Maps and Geo data

JOIN Case & Document is compatible with WFS/WMS map layer data and acts as both producer and consumer. Maps are rendered using PDOK and can show any external WFS layers as well.

At the same time, JOIN Case & Document can expose its data in WFS format so the data can be consumed by other Geo applications.

JOIN Case & Document only supports WFS 2.0

ZGW API Overview

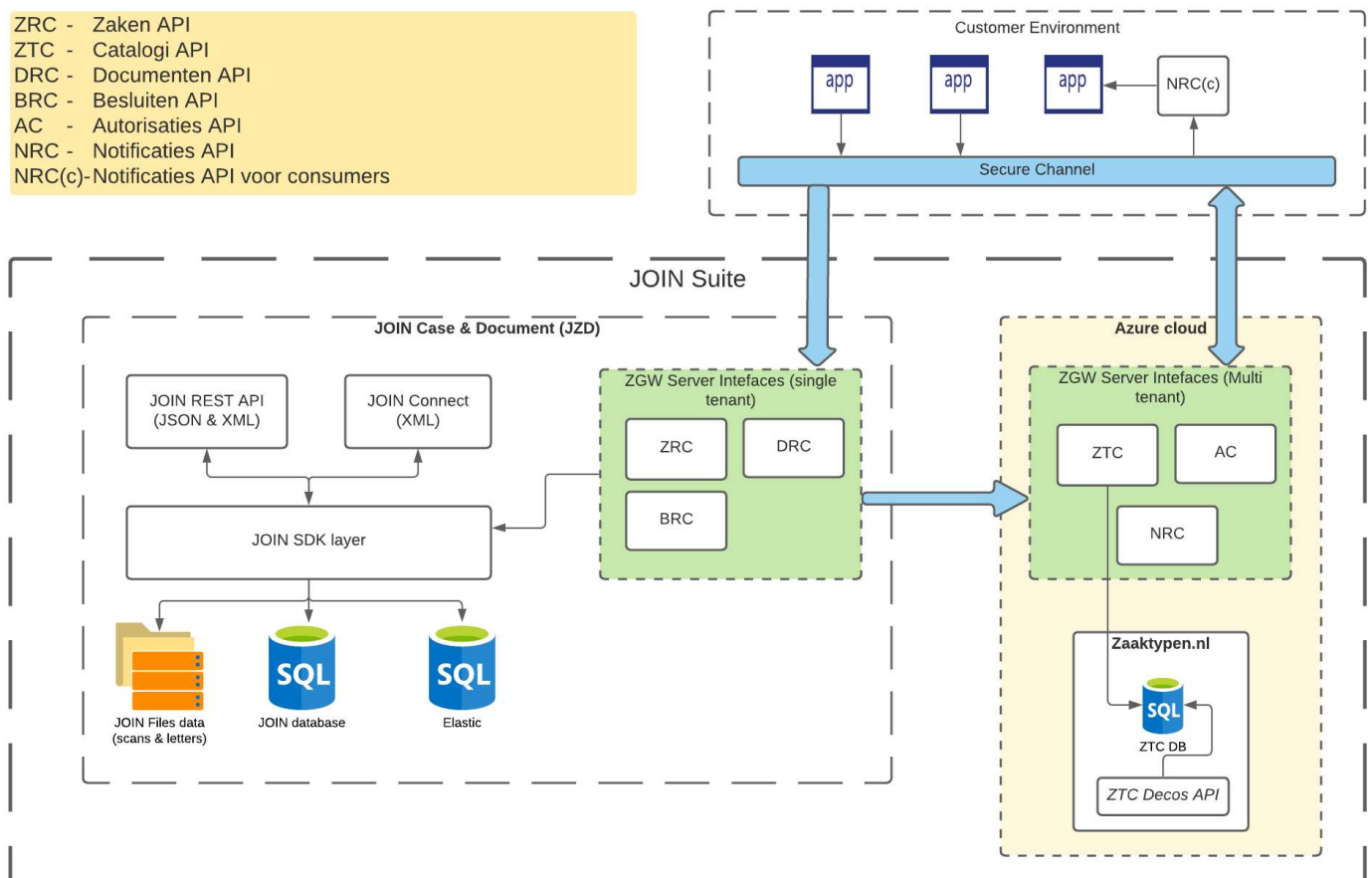
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Introduction

The ZGW APIs provide a new way to integrate applications with a case management system. The APIs are successor to the Zaak Documentservices (ZDS). The APIs are developed in accordance with the Common Ground vision.

This article describes current ZGW API implementation by Decos and architecture details.

Architecture and Hosting



In the Phase-1 release, we provided Catalogi APIs, Zaken APIs, Documenten APIs and Besluiten APIs as a server component.

The APIs are hosted in hybrid pattern for optimal performance

ZRC/DRC/BRC APIs:

Zaken API (ZRC): To store and access Case and associated metadata

Documenten API (DRC): To store and access Document and associated metadata

Besluiten APIs (BRC): To store and access Decision and associated metadata

These APIs are part of JOIN deployment as a single tenant solution. Its on the same level as JOIN REST API.

ZTC APIs

Catalog API for storage and retrieval of case types, document types, related entities and relations.

Its deployed as a multi tenant solution.

There are 2 deployments to access Beta and Production ZTC

Beta: <https://zgw-ztc-api-acc.decosasp.com/swagger/index.html> 

Production: Deployment pending...

AC/NRC APIs :



Autorisaties API (AC): Allows to manage and read authorizations

Notificaties API (NRC): Route notifications between other components.

These are core APIs, all other APIs are depends on it for authorize and notify other applications.

As of now its not developed by Decos. We are using reference implementation provided by VNG for that.

Its deployed as a multi tenant solution.

- AC
 - Beta: <https://ac-acc.decosasp.com/> 
 - Production: Deployment pending
- NRC
 - Beta: <https://nrc-acc.decosasp.com/> 
 - Production: Deployment pending

API Versioning

The API supports versioning as per the VNG standard.

Currently we support ZGW APIs v1.0.



For more details refer [article](#)  from VNG.

Authentication/Authorization

The APIs follows standard guidelines provided by VNG to secure resource access.



For more details refer [article](#)  from VNG.

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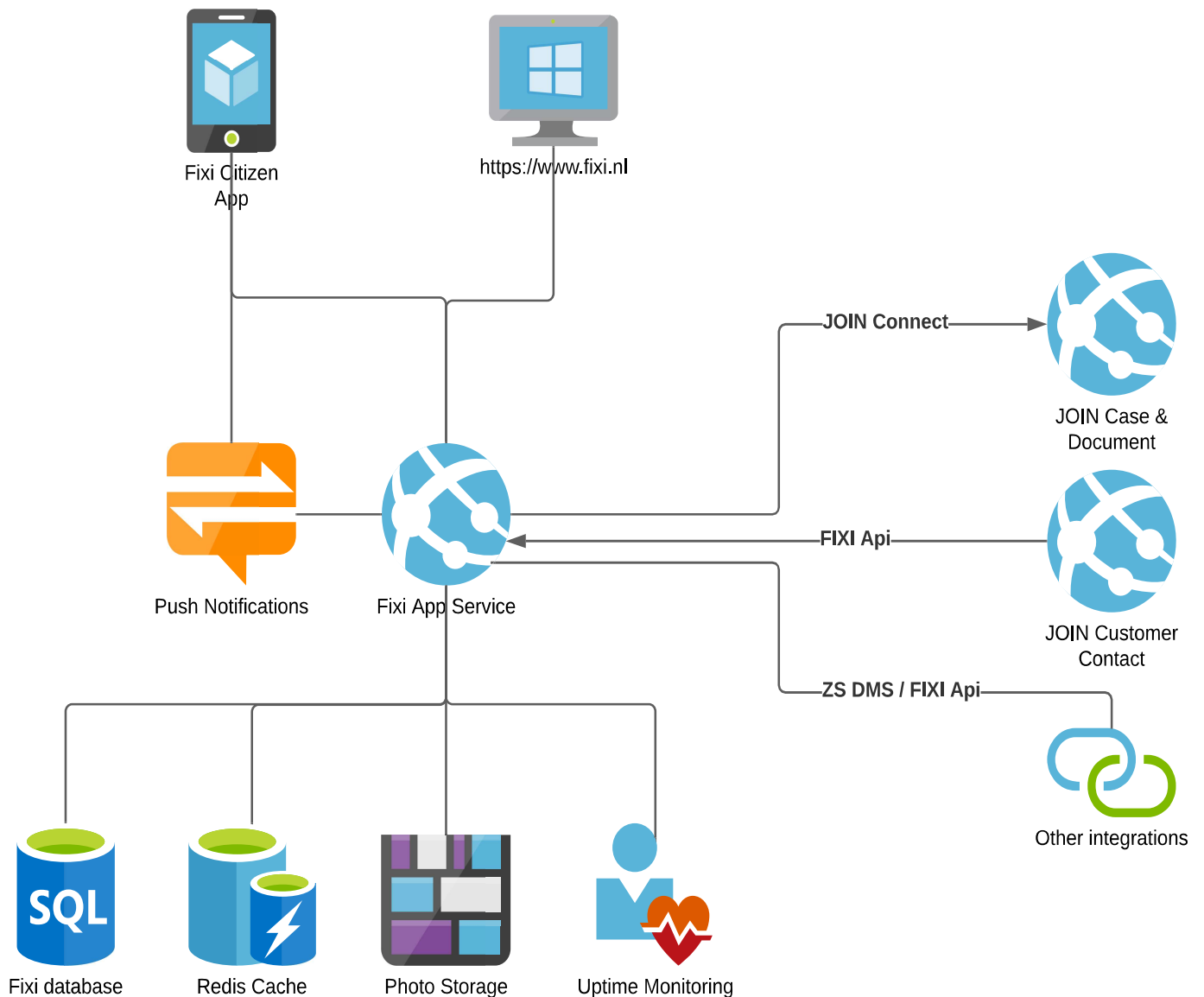
Whitepaper

FIXI

FIXI

Fixi is a Decos cloud solution to connect citizens directly with the municipality for reporting issues in the public space in a complete digital way. Citizens can make a report with the Fixi app from their mobile phone or by using Fixi website using a short description and optionally with photos of the issue being reported.

Using Fixi, the municipality can put the field staff directly to work based on region, planning and team configurations. The field services receive notifications through the Fixi handler app. The citizen responsible for making the Fixi report can easily track the solution and status, including photo updates of the solution as handler team can easily report these back. This allows Fixi to connect citizens and handlers.



Fixi is an independent solution and can be used without any other JOIN product. It does provide an integration with JOIN Enterprise to seamlessly synchronize Fixi reports with JOIN case registration and has the ability to act as integration source.

Hosting

Fixi is hosted in the data centers of Microsoft Azure in the West-Europe region. Fixi is a cloud solution only and cannot be hosted on premises.

Using the power of Microsoft Azure, the uptime of Fixi is at least 99,95%.

The data of Fixi is backed up and can be restored to any point in time over the last 35 days.

Apps

Citizens use either the Fixi website (<https://www.fixi.nl>) or they use Apps from the IOS App Store or the Google Play Store.

Fixi supports Edge, Chrome, Firefox or a Safari type browser, in a version that is supported by the browser provider.

The supported IOS version is 11.0 or newer (iPhone 5S or higher, iPad Air or higher, iPad Mini 2 or higher, or iPad Pro).

The supported Android version is 5.1 (Lollipop) or higher. All devices running this Android version (or newer) are compatible.

Integration with JOIN Case & Document

The Fixi solution can be integrated with JOIN Case & Document. All reports from Fixi are sent as cases of a single casetype (MOR), so the case system has a complete overview of all cases and can archive them accordingly.

Fixi remains responsible for handling and updates of the report. E-mail notifications are sent from Fixi and not from JOIN Case & Document.

Communication between Fixi and JOIN Case & Document uses the web services of JOIN Connect.

Integration with JOIN Customer Contact

Users working with JOIN Customer Contact can use the direct integration between JOIN Customer Contact and Fixi. When they are being contacted about Public Space Reports through channels not supported by Fixi, such as phone or e-mail, then JOIN Customer Contact will send the Public Space Report to Fixi.

When using JOIN Customer Contact together with Fixi, the following features are available:

- Prefilling citizen data
- Search through all reports
- List all reports made by the same citizen (based on e-mail address of the reporter)

JOIN Customer Contact makes use of the public API of Fixi to achieve this integration.

Other integrations

If you use Fixi without any other JOIN solution, integration is also possible using one the ZS-DMS1.1 standard.

If any other solution needs to communicate with Fixi, they can use the public REST API of Fixi, similar to how JOIN Customer Contact is integrated.

If required, the login for employees can be established using ADFS.

Whitepaper

JOIN Agenderen

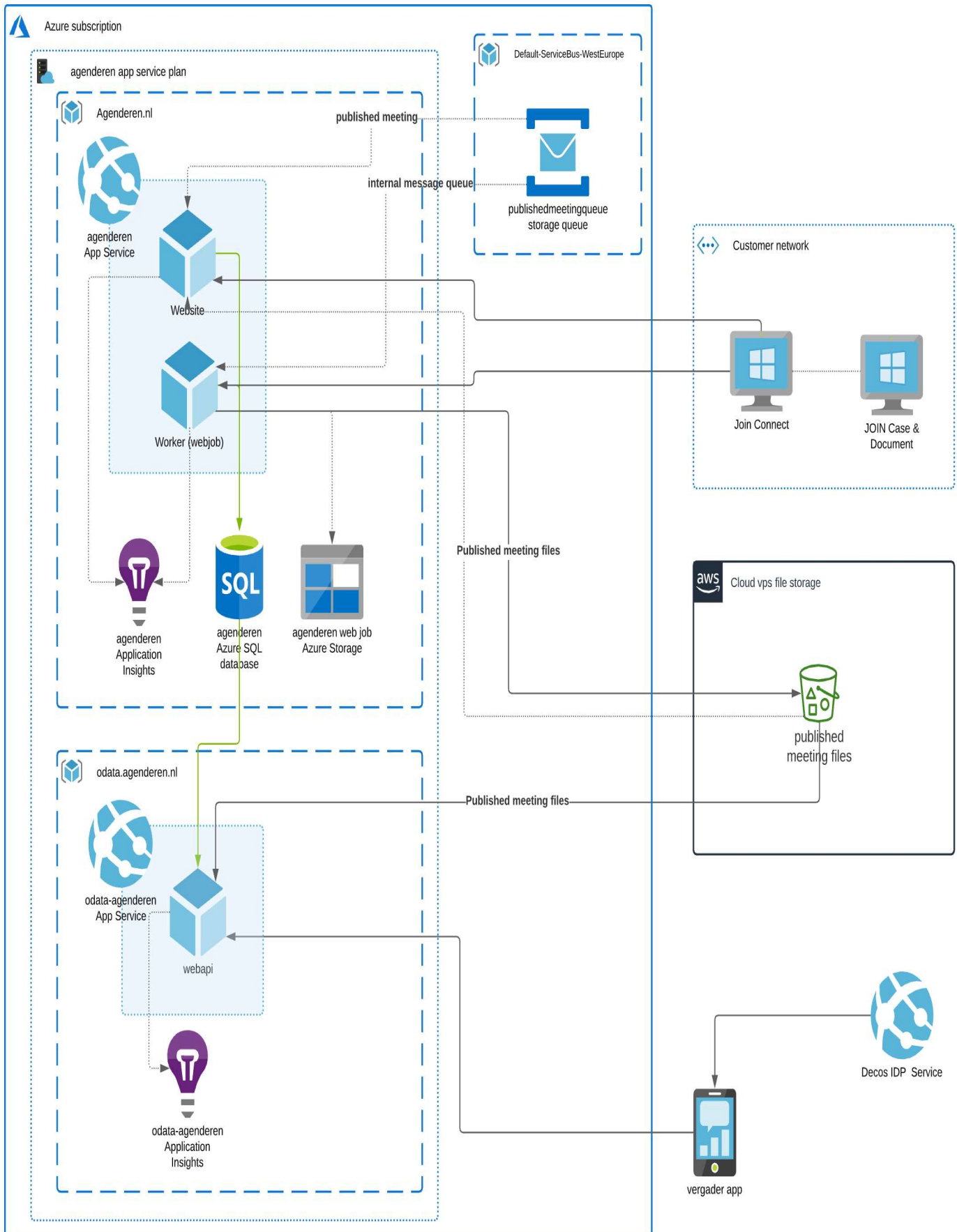
JOIN Agenderen

JOIN Agenderen offers an environment for preparing meeting agendas, publishing, and distributing meeting documents online. Documents from JOIN Case & Document (in the official phase) can be recorded and ordered (in the agenda phase) then published for various solutions (for the meeting phase).

Vergader App

An iPad application that connects to the published documents from JOIN Agenderen so that these documents can be viewed digitally during the meeting.

Architecture



Agenderen's architecture consist of 3 main components Frontend, Meeting publisher worker and JOIN Case and Document connection using JOIN Connect WCF Service. All the meetings are always retrieved from JOIN case and

document, so they are always latest and when the meeting is finished it is sent to meeting publisher. Meeting publisher creates the pdf of meeting and convert all the meeting files to pdf and securely stores it in Cloud storage which can be retrived any time.

Also, It notifies all the configured vendors about meeting's update. Using OData service vendors can retrieve meeting, metadata and meeting files.


Security

Join Agenderen uses cloud IDP service to manage user identities and licensing information. Decos is an ISO-27001 certified company. This well-known security standard runs a wide variety of security measures that cover the entire company and all processes. Using an Information Security Management System (ISMS), all processes involved in the development, hosting and support of the JOIN Application are covered.

The certification covers:

- ▶ Security Policy
- ▶ Device Management
- ▶ Personnel Management
- ▶ Access Management
- ▶ Storage & Encryption Management
- ▶ Vendor Management
- ▶ Incident Management
- ▶ And More

Our ISO certification and Statement of Applicability can be shared with customers upon request.

Microsoft Azure is our host provider and has a wide variety of ISO certifications. ISO-27001 is one of them. See <https://servicetrust.microsoft.com/>  for full details.

To test

ISO-27001 ensures that software security is included in our development processes. A security checklist based on the OWASP Top 10 is known to all developers and is part of the Definition of Done (DoD).

Automated security

Additional security is automatically tested using tooling. All developers use OWASP ZAP to scan their applications. The Quality Assurance department monitors the software release candidates using BurpSuite and reports to the Product Owners and Security Officers at Decos.

Penetration Tests

Apart from testing using tools, all products in the JOIN Suite are subject to an external audit at least once a year. This audit is a requirement for ISO-27001, but it is also a requirement of Logius to be able to link applications to DigiD. The auditors also conduct a thorough penetration test.

Decos also has an internal penetration testing scheme in which the developers try to hack into each other's applications. This is a recurring process and part of our ISO-27001 procedures.



Responsible Disclosure

It is possible that there are still bugs in the released software. We ask ethical hackers to work with us using a Responsible Disclosure Policy. We will reward any security issue that was not yet known to us, as long as the hacker has not abused his findings.

See our Responsible Disclosure Policy online: <https://www.decos.com/en/security>  .

Encryption and Backup

All data is captured in a Microsoft Azure Recovery Services Vault with a minimum storage time of 30 days. This applies to all files stored in the applications as well as in the databases.

All data is encrypted at rest. Storage Accounts using Azure Storage Encryption (<https://docs.microsoft.com/en-us/azure/storage/common/storage-service-encryption>  Z) and databases are encrypted at rest using Transparent Data Encryption (<https://docs.microsoft.com/en-us/azure/azure-sql/database/transparent-data-encryption-tde-overview?tabs=azure-portal> )

The recovery point objective (RPO) can be anywhere in the retention periods. The recovery time objective (RTO) is considerably limited. Depending on the amount of data being saved, the recovery process is usually completed within an hour.

Integrations

JOIN Agenderen is integrated only with JOIN Case and Document while preparation phase. Once the meetings are over it can be integrated with below but not limited to vendors.

- Agenderen iOS App
- GO
- iBabs
- Minute
- Notubiz
- SIM

Performance & Scalability

JOIN Agenderen is hosted in Microsoft Azure data centres in the Western Europe region. JOIN Agenderen is only a cloud solution and cannot be hosted on site. By leveraging the power of Microsoft Azure, Agenderen's uptime is at least 99.95%.

Agenderen's data is stored in cloud and can be retrieved at any time in future.

Browser support

Major browsers like Chrome, EDGE and Firefox are supported for JOIN Agenderen.

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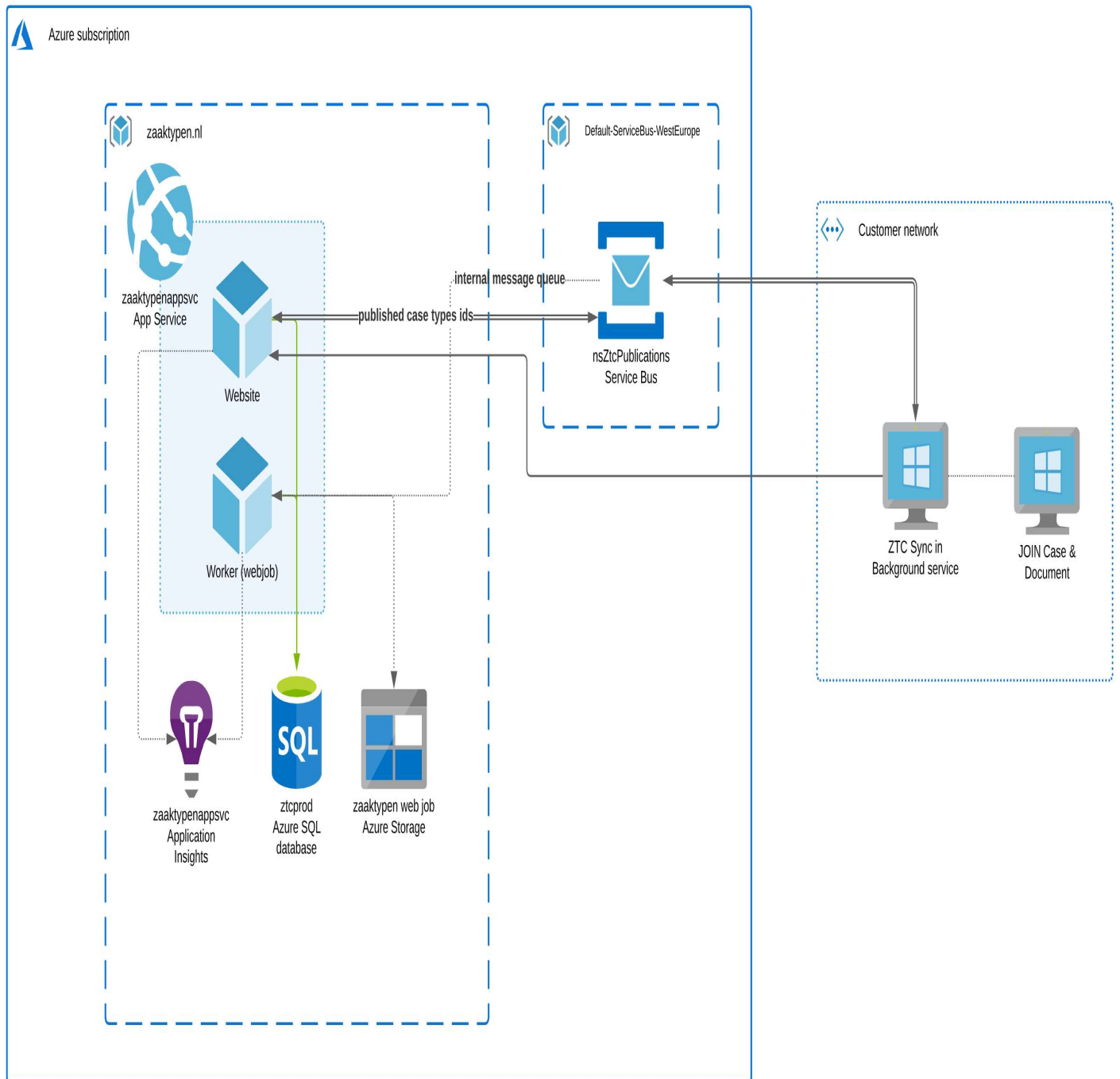
JOIN Zaaktypen

Join case type white paper

JOIN Zaaktypen

JOIN Zaaktypen focuses on simple, fast and complete management of case types. The information model of JOIN Zaaktypen is based on GEMMA ZTC 2.1. This extensive information model is also applied within other government domains such as water and safety instances. JOIN Zaaktypen is completely integrated with JOIN Case & Document, this allows the case system to be managed entirely with the JOIN Zaaktypen configuration.

Architecture



Zaaktypen's architecture consist of 2 main components Frontend and JOIN Case and Document Sync service. All the casetypes published from Zaaktypen are sent to ZTC sync service via Azure topics for reliable delivery. Once ZTC Sync service gets the message or on periodic interval it retrives the casetypes to be sync with JOIN Case and Document. Older casetypes are archived and alwasy accessible in Zaaktype

Also, It notifies all the configured vendors about meeting's update. Using OData service vendors can retrieve meeting, metadata and meeting files.


Security

Join Zaaktypen uses cloud IDP service to manage user identities and licensing information. Decos is an ISO-27001 certified company. This well-known security standard runs a wide variety of security measures that cover the entire company and all processes. Using an Information Security Management System (ISMS), all processes involved in the development, hosting and support of the JOIN Application are covered.

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Apart from testing using tools, all products in the JOIN Suite are subject to an external audit at least once a year. This audit is a requirement for ISO-27001, but it is also a requirement of Logius to be able to link applications to DigiD. The auditors also conduct a thorough penetration test.

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The recovery point objective (RPO) can be anywhere in the retention periods. The recovery time objective (RTO) is considerably limited. Depending on the amount of data being saved, the recovery process is usually completed within an hour.

Integrations

Join Zaaktypen is integrated only with JOIN Case and Document for publishing the casetypes. But we have below integrations with other case type configuration systems.

- iNavigator

Performance & Scalability

Join Zaaktypen is hosted in Microsoft Azure data centres in the Western Europe region. Join Zaaktypen is only a cloud solution and cannot be hosted on site. By leveraging the power of Microsoft Azure, Agenderen's uptime is at least 99.95%.

Zaaktypen's data is stored in cloud and can be retrieved at any time in future.

Browser support

Major browsers like Chrome, EDGE and Firefox are supported for JOIN Zaaktypen.

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Menuet Whitepaper

Introduction

The menuet solution supports the following process-specific solutions (we call these “knowledges”):

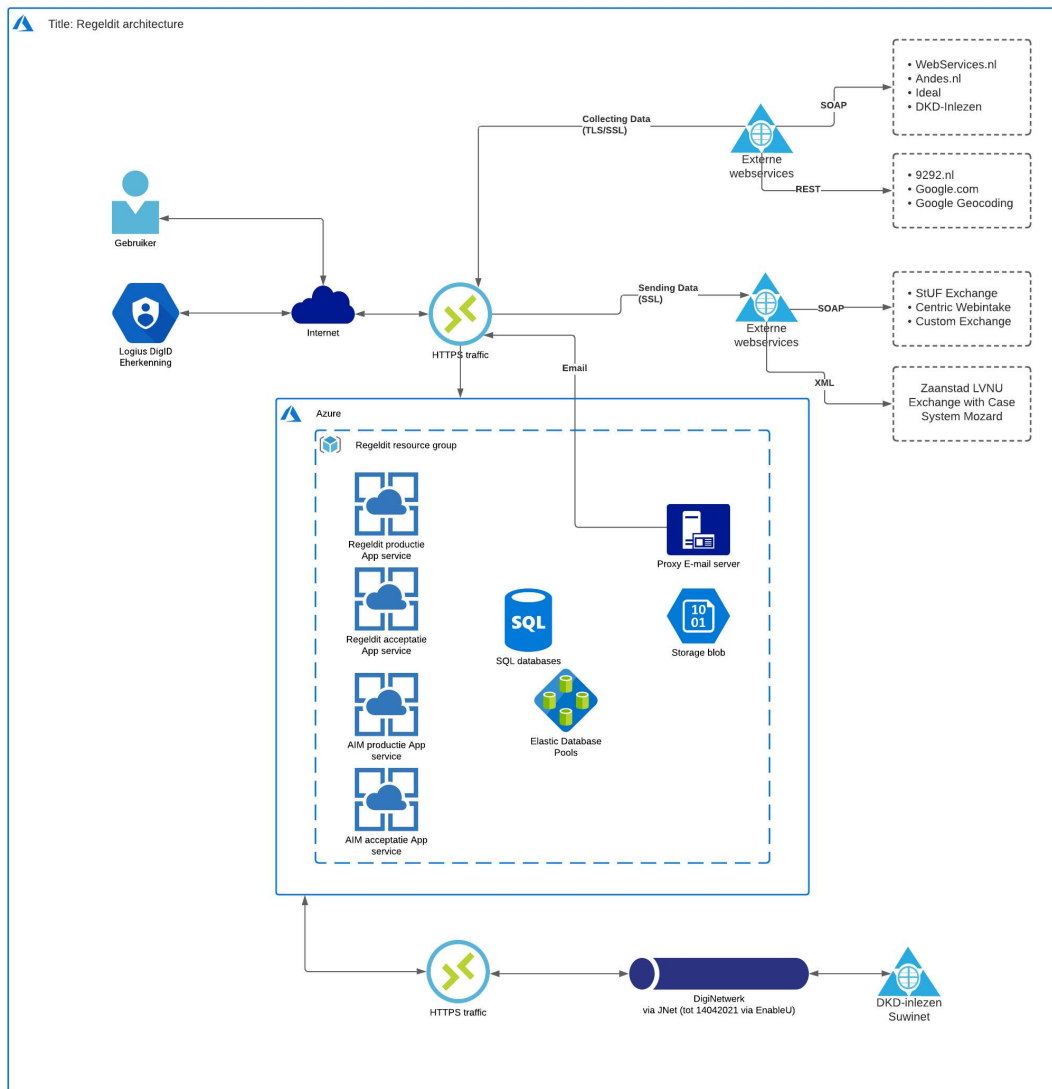
- **LV.NU** - student transport application request
- **AIM Online** - solution to support the dutch environmental law
- **Inkomensassistent** - additional income help for dutch citizen
- **Evenementenassistent** - solution that helps event-organizers to request a eventpermit
- **TOZO** - additional income help for dutch single person entrepreneurs that suffer from the COVID-pandemic

The Menuet solution consists of the following components:

- **Menuet Engine:** rule engine with components Parser, Tester and Executer. Based on XAF-framework
- **Menuet Publisher:** exporting and formatting data to enduser in HTML or XML
- **Menuet Session:** storage of session data during a session of one of the above mentioned solutions
- **MenuetSettings:** manages the application settings, database connections, local settings.
- **Ouverture:** application that is used to build the knowledge-trees for the knowledge-solutions
- **MenuetLogging:** storage of .Net runtime errors in database
- **Anonimization:** database anonimization for personal data (bsn, address, names, phonenumber and emailaddresses)
- **Mail processor:** component for managing mails and error-handling of sent/received mails

Architecture

Diagram



Modules

Event Assistant (EA)

- knowledge
- EA dossier

Student transport (LV.NU)

- knowlegde
- LV.NU admin

Acitvity Internet Module (AIM)

- knowledge
- AIM Admin

TOZO

- knowledge
- citizen-folder (nl: Burgerdossier)

Income Assistant (IA)

- knowledge
- citizen-folder (nl: Burgerdossier)

Authentication

- DigiD - a DigiD group-connection is used for citizen to establish a secure login based on their DigiD. DigiD is used in IA and LV.NU knowledges
- eHerkenning - a eHerkenning connection is used for companies to establish a secure login based on their eHerkenning identity. eHerkenning (hosted by Signicat) is used in AIM and LV.NU knowledges.
- User/PWD (Oauth)

Browser support

Following web-browsers are supported:

- Chrome
- Firefox
- Edge

Security

For more information regarding security, please visit our Trust Center.

Plug-ins / external services

The menuet solution consists of the following external integrations (between brackets you will find the knowledges that consume these services):

- **DKD - Digitaal Klantdossier (Suwinet):** DKD is used to fetch additional data of a citizen, like license plate, income-tax etc. The request is based on a citizen's BSN. This service is hosted by JNET. (IA)
- **Andes:** Smart API that calculates the correct distance to the nearest school (LV.NU)

- **Zipcode webAPI webservices:** API to convert zipcode/housenumber into an address (LV.NU, EA, IA, AIM, TOZO)
- **9292 Public Transport API:** this API is used to calculate trip distances to the closest school for student transport (LV.NU)
- **Google Maps:** drawing a location / vector on a map during the event permit request (EA)
- **Outgoing mail:** Office 365
- **HIQ-PDF:** generating PDF from HTML (EA, IA, AIM, LV.NU)
- **Altsoft:** PDF-conversion
- **DocX:** Creating DOCX-files (word)
- **EPPlus:** creating XLSX-files (excel)

Integrations

StUF-integrations

- **StUF-ZKN integration (one way) for AIM:** sending requests after completion to external case-systems
- **StUF-ZKN integration (one way) for EA:** sending requests after completion of event permit request to external case-system (JOIN Case & Document)
- **StUF-ZKN integration (one way) for LV.NU:** sending completed student transport application to external case-system

Other integrations

- integration with Centric Clientsystem (IA) for Customer Nijmegen

Whitepaper

JOIN OP LOCATIE

JOIN ON PREMISES

JOIN Case & Document and JOIN Customer Contact are also available to install locally, on the organization's infrastructure, within their own network.

Server Requirements

JOIN is operational on Windows Server 2012, 2016 or 2019, on 64-bit systems. From certain amount of users, it is required that the database and / or application services are placed on separate servers.

It is not possible to combine JOIN Customer Contact and JOIN Case & Document on one server. The configurations below apply separately for each application.

Users[1]	Servers	Cores[2]	Memory
1-50[3]	1	2	4 GB[4]
50-100	2	2	4 GB11
100-250	2	4	8 GB
250-1000	3	4	8 GB
1000-2000	3	4	12 GB
More than 2000	Tailored advice		

All servers must be equipped with [Microsoft.Net](#) 4.7.2 or higher, Internet Information Services and Microsoft Message Queuing, and have at least 50 GB of free disk space prior to installation.

Extra disk space is required for storing data within the application. It is advised not to store this data on the application server itself, but on separate locations on the network or on a storage device.

Database

JOIN is operational on databases of type SQL Server (version 2008 or higher) and Oracle (version 9.x or higher). In the case of Oracle, Oracle [ODP.Net](#) Drivers (ODAC 12 / Managed Driver) are used on the web / application servers.

JOIN Case & Document is from version 2021.3 no longer supporting MySQL.

It is possible to install the database servers on Linux or Unix, as long as the database supports this.

ElasticSearch

ElasticSearch contains all metadata (both from registrations and files) that must be searchable for end users. The index contains all current metadata from the database and will require a significant amount of storage. Items are added to the index via the JOIN Background service.

Because the size of the index depends on the infrastructure and the content of your database, it is only possible to give an indication of the required amount of storage. Storage increases when your database contains a lot of file data for example.

Take an increase of storage into account of at least 60-70%. An item-table with a size of 10 GB will then lead to a search index with a size of approximately 6-7 GB. The calculation is linear and does not depend on the size.

Server-installation

Elastic Search requires a separate installation that will be carried out by the Decos technical consultant. In addition to the installation of Elastic Search, an installation of Kibana and Java RE is also required. Elastic version 7.6.2 is currently supported as the highest version (2020.9)

Memory

The external search engine uses the JOIN Background service for performing the searches and writing metadata to the index. Performing these actions requires at least 2 GB of RAM. You must ensure this amount of memory is available on the server where JOIN Search is installed.

Indexing

After the installation of JOIN Search, once the index will have to be built. The duration of this (bulk) indexing depends on the size of the item-table and the infrastructure.

When you use SSD, the index is built up with approximately 11000-14000 items per minute. This is an indication and may differ per situation. You can estimate the total index duration based on the size of your current item-table.

Storage Capacity

The required storage capacity is proportional to the number of records and files stored in the system. The following can be used as a guideline, but in practice the capacity used differs considerably per organization due to the application of different scanning preferences or OCR.

Examples storage capacity data set (gebaseerd op zwart/wit, 300 dpi)	Harddisk space (average)
Dataset with 5.000.000 documents, 2.000.000 addresses, without scanned pages	27 GB

Dataset with 30.000.000 documents, 15.000.000 addresses, without scanned pages	165 GB
Storage of 10.000.000 scanned pages	500 GB
Storage of 50.000.000 scanned pages	2,5 TB
Storage capacity data set	Harddisk space (average)
Data per registration	5 KB
Data per address	1 KB
Data per file	1 KB
Storage of 1 scanned page black/white with 300 dpi, TIFF CCITT group 4 compression	100 KB

Updates

Updates for JOIN Case & Document and JOIN Customer Contact are available on the customer portal of our website for all organizations with a valid maintenance agreement.

Back-up & restore

With on-premise installations of JOIN Enterprise or parts of it, the organization itself is responsible for making backups of both the databases and stored files.


Internet Connection and Ports


Some components in JOIN require internet connectivity, for example to communicate with cloud solutions such as JOIN Casetype (Zaaktypen), JOIN Agenderen or JOIN Customer Contact Management.


Some cloud solutions require connections to the JOIN Connect web services or JOIN REST API. If JOIN Connect cannot be accessed via a public HTTPS connection, JOIN Connect will still make itself available via an outgoing service bus relay connection via https://*.servicebus.windows.net.

JOIN Zaaktypen

JOIN Case types synchronize with the JOIN server in two different ways:

1. Push, when publishing a case type, a message is sent to an Azure service bus topic. This requires the ZTC sync service to be able to connect outgoing to <https://nsztcpublications.servicebus.windows.net:9354> 

2. Pull, every 30 minutes an outgoing request is made to <https://www.zaaktypen.nl>  to pick up the latest published case types.

Port	Direction	Scope	Description
9354	Outgoing	JOIN C&D server	https://nsztcpublications.servicebus.windows.net 




(optional) Azure service bus for sending push-messages to JOIN Casetype Synchronization Service
|

Synchronization of other Cloud applications

The following Cloud applications are dependent on an external connection with JOIN Connect.

- JOIN Agenderen
- JOIN CitizenMessages
- StUF-EF Cloud
- Fixi
- JOIN Customer Contact (443 and 9354 Outgoing)

For the correct operation of Cloud applications and JOIN Case & Document, outgoing traffic must be possible on the ports below. If equipment blocks or uses these ports, these applications cannot function properly.

Port	Outgoing	Scope	Description
443	Outgoing	JOIN C&D server	https://decosconnect.servicebus.windows.net 
5671	Outgoing	JOIN C&D server	https://decosconnect.servicebus.windows.net 
9350	Outgoing	JOIN C&D server	https://decosconnect.servicebus.windows.net  t/m
9353			

We use the Azure Relay service to establish this connection.

More information can be found at: <https://docs.microsoft.com/nl-nl/azure/service-bus-relay/relay-what-is-it> 

In some cases, it is also necessary to open the IP number range of the Microsoft Azure data center on the ports listed above. The complete list can be found here:

<https://www.microsoft.com/en-us/download/details.aspx?id=41653> 

End users of the Cloud applications suffice with an outgoing https connection via port 443 to the various Cloud applications.

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Whitepaper

JOIN Collaboration

JOIN Collaboration

JOIN Collaboration is used for sharing (documentary) digital information. The flexible and comprehensive configuration enables both small and large organizations to digitally optimize their information household. Users can share multiple files with multiple participants and collaborate accordingly. By using this functionality, it is possible to fully digitize complex processes.

Collaboration on files uses WOPI protocol to integrate with Microsoft office for the web through the Cloud Storage Partner Program. Supported file types are:

View-only:

- Word: .doc, .dot, .dotx
- Excel: xls
- PowerPoint: .pot, .potm, .potx, .pps, .ppsm, .ppt, .pptm

View and Edit:

- Word: .docx, .dot, .dotx
- Excel: .xlsx, xlsx, .xlsm, .xlsb, .ods
- PowerPoint: .pptx, .ppsx, .odp

JOIN Collaboration is fully integrated with JOIN Case & Document, which means that collaborations on documents and cases can be started from within JOIN Case & Document. JOIN Collaboration can also be used as a standalone application.

Architecture

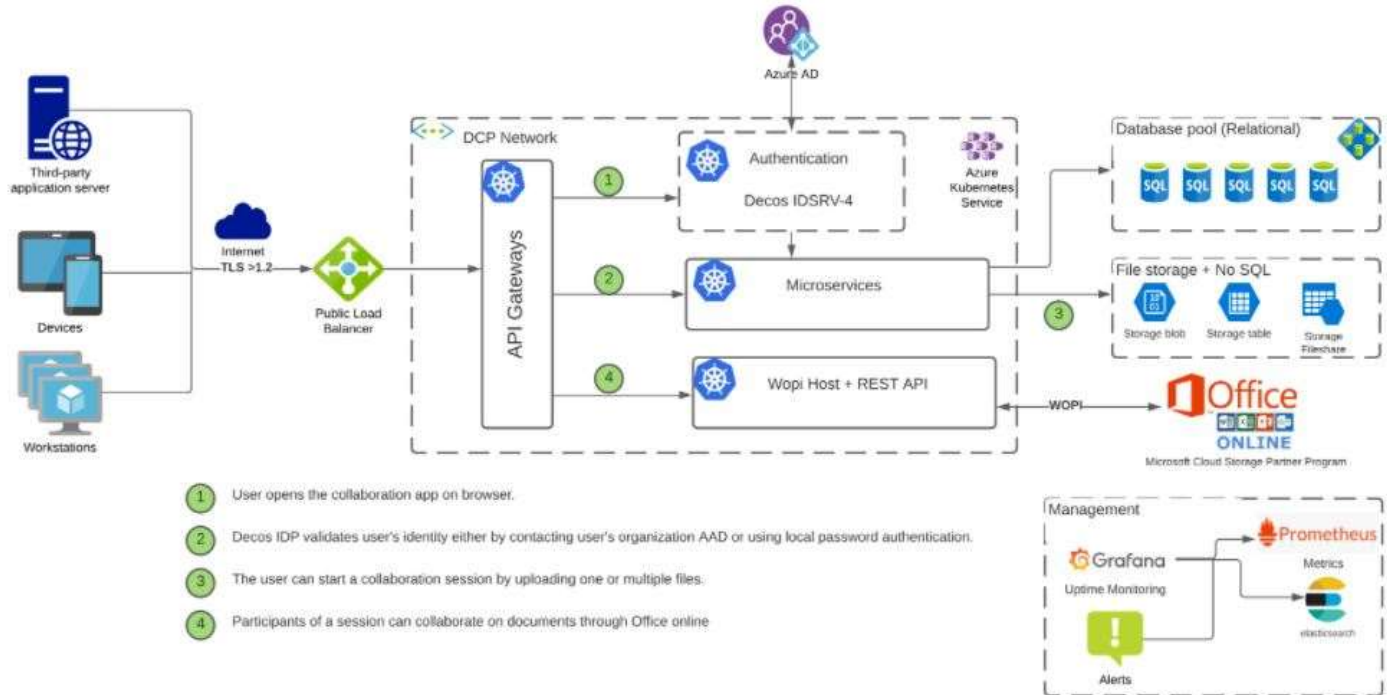
JOIN Collaboration is hosted on the Decos Cloud Platform (DCP) which consists of multiple microservices bounded by domain contexts hosted on an Azure Kubernetes Service. Aside from DCP core services, such as email sending, user authentication, licensing etc., there are several JOIN Collaboration specific services. Listed below are the most important ones:

- Session management: Manages collaboration sessions, including rights by participants on what files
- File management: Takes care of file storage and management and presenting files to user

- Collaboration office document service (WOPI): Uses WOPI protocol to integrate with Microsoft office for the web.

All these services are consumed by several frontend applications built in Angular, again bounded by domain contexts.

The architecture of the JOIN Collaboration is visualized in the next diagram.



Security

Security tests

OWASP Zap scans have been executed by QA to detect possible vulnerabilities. Also, a security checklist based on the OWASP Top 10 is known to all developers and is part of the Definition of Done (DoD). Other than that, an external penetration test has been executed to validate security.

Responsible Disclosure

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Integrations

JOIN Collaboration is fully integrated with JOIN Case and Document for starting collaborations on files within documents and cases. Once collaborations are marked as finished the files are synchronized back to JOIN Case and Document.

Performance & Scalability

In order to achieve high availability each service has always multiple instances running. The system is tuned to automatically scale up and scale down based on resource consumption, user volume at a given point in time and other parameters.

Decos Cloud Platform has a robust monitoring and alerting system in place with state of the art tools. This monitoring system not only is capable of detecting the anomalies instantly and trigger alerts, but also in some cases it is capable of detecting certain problems which may occur in near future.

Browser support

Major browsers like Chrome, EDGE and Firefox are supported for JOIN Collaboration.

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Whitepaper

Security


ISO certification

Decos is a ISO-27001 certified company. This well-known security standard governs a broad range of security measures covering the entire company and its processes. Using an Information Security Management System (ISMS), all processes playing a role while developing, hosting and supporting JOIN Application are covered.

The certification covers:

- Security Policy
- Device Management
- Employee Management
- Access Management
- Storage and Encryption Management
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Microsoft Azure is our hosting provider and has a broad range of ISO certifications. ISO-27001 is among them. See <https://servicetrust.microsoft.com/>  for all details.

Testing

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Automated security

Additional security is tested automatically using tooling. All developers use OWASP ZAP to scan their applications. The Quality Assurance department checks the release candidates of the software using BurpSuite and are reporting to the Product Owners and Security Officers at Decos.

Penetration testing

Apart from testing using tools, all products in the JOIN Suite are audited externally at least once per year. This audit is a requirement for ISO-27001, but is also a requirement from Logius in order to connect applications to DigiD. The auditors also perform a thorough penetration test.

Decos has an internal penetration test schedule as well, where the developers are trying to hack each other's applications. This is a recurring process, part of our ISO-27001 procedures.



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Encryption and Backup

All data is being retained in a Microsoft Azure Recovery Services Vault with a minimum retention of 30 days. This applies to all files and scans stored in the applications, as well as all databases.

All data is encrypted at rest. Storage Accounts use Azure Storage Encryption (<https://docs.microsoft.com/en-us/azure/storage/common/storage-service-encryption> ) and databases are encrypted at rest using Transparent Data Encryption (<https://docs.microsoft.com/en-us/azure/azure-sql/database/transparent-data-encryption-tde-overview?tabs=azure-portal> )

The recovery point objective (RPO) can be anywhere between the retention period. The recovery time objective (RTO) is quite limited. Depending on the amount of data being restored, the recovery process is usually complete within an hour.

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Whitepaper

PERFORMANCE/SCALABILITY

PERFORMANCE/SCALABILITY

All applications are proven to operate fine within organizations having thousands of employees. We govern the performance of the applications using the following procedures.

Performance testing

The software is being load tested automatically on a day to day process. This load test is fully automated and is covering the core processes of the applications. By executing the test on a day to day base, performance degradations are detected quite short after they have been introduced, making it easier to track back and improve.

The overall performance of the load test runs is one of the checks being executed before software is released.

Scale up / Scale out

Running applications in Kubernetes and in Microsoft Azure in the JOIN Enterprise Cloud offers the following possibilities to scale up and out:

- ▶ Since the applications run inside a Kubernetes cluster, the installed software is not bound to the (virtual) hardware it runs on. If the cluster is short of resources, additional compute power can be added and existing workload can be redistributed.
- ▶ Applications are high available. There are at least two instances running. In case one of them is failing, the other instance will take over without any service interruptions. It is possible to add additional instances of the application to scale up even more. Workload gets divided across the instances using sticky session cookies in the browser.
- ▶ Database capacity is a matter of configuration. Scaling up database capacity is just a few seconds downtime.

Monitoring

The JOIN Enterprise Cloud is continuously being monitored on various performance counters. CPU and memory usage is being monitored per application and per hardware component. If the counters exceed thresholds, our IT department is being alerted.

Additionally, the same monitoring and alerting is present on database performance, which is being monitored on CPU, Data I/O and Log I/O.

Whitepaper

LICENCE POLICY

JOIN Case & Document

The number of usernames that can be entered corresponds to the number of licenses, allowing users to have access to the solution at all times. The total number of usernames of all installations added together must remain below the agreed limit. A user name can be a full user or a user with bulk scan rights.

Every user can use JOIN Now, the MS Office link from JOIN Case & Document, with which documents can be stored directly from the Office environment in the JOIN database.

In addition to named users, JOIN Case & Document has a number of modules that are included in the license. If these modules are active, they are activated for all users in the system.

Integrations with JOIN Case & Document via JOIN Connect use so called JOIN Connect system licenses. One system license represents one connected integration/application.

StUF Suite

Licenses for the use of StUF integrations are processed as a JOIN Case & Document module in the JOIN Case & Document license. One JOIN Connect system license is also included per StUF integration, which will be used by the StUF integration.

JOIN Customer Contact

JOIN Customer Contact has no license restrictions for the number of users that may use JOIN Customer Contact. Users are added with the Active Directory or E-directory. Access is given at group or individual level in the JOIN Customer Contact management environment.

However, a license is required per connected source (application) on JOIN Customer Contact.

A license for JOIN Customer Contact also includes a license for the shared Cloud solution JOIN Customer Contact Management.

Other JOIN Solutions

The other JOIN Solutions are available as a shared Cloud solution and use a yearly renewable license subscription, after which the product is available to the organization regardless of the number of users using the solution.

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Whitepaper

UPDATES

UPDATES

All operating systems in the JOIN Cloud are always automatically provided with the most recent updates concerning the Operating Systems.

For the JOIN Solutions, a distinction is made between major releases, minor releases, hotfix releases, and shared cloud solutions.

Major releases

Major releases are official releases of JOIN Software containing features, minor improvements and bugfixes. There is no fixed rhythm for the major release, but it will be once or twice per year. These releases are announced publicly and will be installed on the JOIN Enterprise Cloud always. The maintenance window of this upgrade is determined together with the customer.

Minor updates

Minor updates are monthly updates of existing major releases, containing bugfixes and minor improvements. These release are not announced publicly and only activated on the JOIN Enterprise Cloud upon request.

Hotfix releases

Hotfixes are intended to fix high priority software changes that cannot wait for monthly update. For example security-issues. The hotfix is only announced publicly when the issue impacts a large group of customers. Otherwise, hotfixes are only activated for customers upon request.

Shared cloud solutions

The other shared Cloud solutions of JOIN are updated simultaneously for all customers at a time determined by Decos, exclusively in the time frame between 8 p.m. and 6 a.m.

The solutions are not available for a few minutes during the installation. If the solutions will not be available for a longer period of time, this will be communicated in advance.

Whitepaper

WORKSTATION

Workstation requirements

The JOIN Solutions fully operate for end users if an Edge, Chrome, Firefox or a Safari type browser is used in a version that is supported by the browser provider.

For optimal use on the workstations, it is advisable to run the applications in a screen resolution of at least 1920x1080 pixels with a 24-inch monitor.

JOIN web solutions are supported on tablets, for iPads with Safari and Chrome. On Android tablets only Chrome is supported.

For each active user, at least a bandwidth of 256kbps is required.

Client-package

To use the following functionalities of JOIN Case & Documents, it is necessary to have the JOIN Client Components MSI package installed on the workstation:

- Integration with JOIN Now within Microsoft Office / GroupWise / Windows Explorer
 - Update files without additional user interaction
 - Merge files based on DOT templates
 - Placing personal electronic signatures
- Edit templates using the Template editor

Terminology:

JOIN client	Supported functions on a workstation where both Office desktop software and the JOIN client software are installed.
Desktop Outlook without JOIN client	Supported functions on a workstation where the Microsoft Outlook desktop software is installed without JOIN client software.

Desktop Office without JOIN client	Supported functions on a workstation where Microsoft Office or LibreOffice desktop software is installed without JOIN client software. These functions are also available for Microsoft Office on Apple iMac workstations.
Office Online	Supported functions if no desktop Office software is installed. Editing online Office documents is only possible if the JOIN software is connected to our own Office Online Server.

In the chapters below we discuss the features impacted by the presence of desktop applications like the JOIN Client package or MS Office.

Office 365-module

When using the Office 365 module from JOIN Case & Document, e-mails can also be registered from Outlook without the JOIN Client components. If the Office 365 e-mail server from Microsoft is used. Registering more emails at the same time, is not possible with the Office 365 add-in.

The module also provides access to the Office Online Server from Decos. See 3.2.8 Office Online Server for the possibilities that Office Online Server (OOS) offers for working without an Office client.

Outlook integration using JOIN Now

Please see the compatibility matrix below to see which JOIN Now features are possible in Outlook.

	JOIN client	Desktop Outlook w/o JOIN client	Outlook online
Office version	2007 or newer	Office 365	Office 365
Save in JOIN, single e-mail	✓	✓	✓
Save attachments separately	✓	✓	✓
Save in JOIN, several mails at once	✓	✗	✗
Attach file from JOIN	✓	✓	✓
Send and save	✓	✓	✓
Email templates	✓	✗	✗

	JOIN client	Desktop Outlook w/o JOIN client	Outlook online
Automatic e-mail classification	✓	✓	✓
Change JOIN environment in add-in	✓	✗	✗
Multiple concurrent copies of add-in	✗	✓	✓

Office documents

Please see the compatibility matrix below to see which features are possible in MS Office with and without the JOIN Client components.

	JOIN client	Desktop Office w/o JOIN client	Office Online
Component	JOIN Now	JOIN WebDAV	Office Online Server
Microsoft Office version	2007 or newer	2013 or newer	Office 365
LibreOffice version	5.2 or newer	5.3 or newer	✗
Edit Office files	✓	✓	✓
Edit Visio files	✓	✓	✗
Add-in:			
New in JOIN	✓	✗	✗
Open in JOIN	✓	✗	✗
Save in JOIN	✓	✗	✗
Templates:			
DOT (Office 97-2003 template)	✓	✗	✗

	JOIN client	Desktop Office w/o JOIN client	Office Online
RTF	✓	✓	✓
DOTX (Office Open XML)	✓	✓	✓
ODT (LibreOffice)	✓	✓	✓
Content templates	✓	✓	X*
Template Editor (Microsoft Office)	✓	X	X
Office Link integration	✓	X	X

- Registration fields are shown read-only in Office Online but can be updated in JOIN.

Other files and functions

Please see the compatibility matrix below to see which other features are possible on the workstations with and without the JOIN Client components:

	JOIN client	Desktop software w/o JOIN client	Office Online
Random files:			
Upload, link	✓	✓	✓
Download, open read-only	✓	✓	✓
Edit	✓	X	X
Advanced PDF functions:			
Digitally sign PDF (client)	✓	X	X
PDF authentication	✓	✓	✓
PDF forms	✓	X	X

	JOIN client	Desktop software w/o JOIN client	Office Online
E-mail functions in Group Wise:			
Save in JOIN, one e-mail	✓	X	X
Attach file from JOIN	✓	X	X
Send and save	✓	X	X
Send to JOIN from Windows Explorer	✓	X	X
TWAIN scanner integration	✓	X	X
Desktop barcode scanner	✓	X	X

Browsers

Full support applies to all Decos solutions if Edge, Chrome, Firefox or Safari type browser is used and as long as it is supported by the browser provider.

	Microsoft Edge	Mozilla Firefox	Safari	Chrome	Opera	Microsoft IE 11
All functionalities	✓	✓	✓	✓	X	X

Operating systems

Not all functionalities of JOIN Case & Document are available on all client operating systems:

	Windows	Linux	Mac OSX	Android	iOS
View files	✓	✓	✓	✓	✓
Link files	✓	✓	✓	X	X
Merge files (RTF)	✓	✓	✓	X	X
Merge files (DOT)	✓	X	X	X	X

	Windows	Linux	Mac OSX	Android	iOS
Merge files (OpenXML)	✓	✓	✓	X	X
Merge files (ODF)	✓	✓	✓	X	X
Update files	✓	✓	✓	X	X
JOIN – web admin	✓	✓	✓	X	X

Word Processors

Functionalities of word processors in combination with JOIN Case & Document:

	Microsoft Word 2013 en hoger	Libre Office
Merge RTF Templates	✓	✓
Merge DOT Templates [1]	✓	X
Merge DOTX Templates	✓	X
Merge ODT Templates	✓	✓
Merge editor5	✓	X
JOIN Now functionalities[2]	✓	✓

E-mail clients

Compatibility of various e-mail clients with JOIN Now:

	Outlook 2013, 2016, 365	GroupWise client 6.5 or higher (Windows)
Link e-mails via JOIN Now5	✓	✓

- To perform these functions, an installation of JOIN Now on the workstation is required. For the other components, only a web browser is required
- JOIN Now for LibreOffice is only available for LibreOffice on Windows.

JOIN Mobile

The JOIN Mobile App is an App available for IOS and Android, contacting the JOIN Case & Document REST API. Before you can start using JOIN Mobile for your organization, it must first be configured on your JOIN Server. The following steps are necessary:

General - settings JOIN Case & Document

- ▶ JOIN Case & Document version 6.23 (or higher) must be installed. This version contains the JOIN RestAPI with which the JOIN Mobile app can connect to the (local or cloud) environment of JOIN Case & Document. It's also possible to create a test and production environment suitable for JOIN Mobile.
- ▶ The license for ENJOIN must be activated in JOIN Case & Document. Without a valid and activated license, the user cannot scan a QR code that connects the mobile app to your JOIN environment.
- ▶ If you also want to use the JOIN Mobile app from outside your organization, the Case & Document website portal must be made available outside your domain. This will have to be realized in collaboration with a Decos technical consultant and your own IT department.

Single Sign On

Users can be automatically logged in to JOIN Case & Document and JOIN Customer Contact based on their username in their Windows session . This is done with Integrated Windows Authentication. Integrated Windows Authentication is only applied if websites are located in the Trusted Sites zone or Intranet zone. This must be set centrally at the workplace or by Group Policy. When using ADFS, WIA support for the browsers must be enabled on the ADFS server.

If automatic login is not applied, it is always possible to have password verification done via Active Directory. This is also possible without using ADFS. The password will be verified using a LDAP connection between the JOIN Server and the Active Directory server. This means a VPN connection needs to be present.

The other shared Cloud solution components use - as far as authentication is concerned - one central JOIN authentication service using SAML 2.0.

Citrix / Terminal Server

All JOIN Solutions are completely useable with Citrix or Terminal Server.

Virtualization

Client applications can also be offered virtually on the workstation (ThinApp, XenApp, App-V, etc.). This is not a problem, except in some situations in combination with client components from JOIN Case & Document:

The client components on the workstations have the primary task of integrating into the applications from which JOIN Case & Document must be accessible. With integration in for example Office it is advisable to virtualize both Office and the client components, or neither. Situations where only one of the applications is virtual, lead to problematic environments and complex problems. Best practice is therefore client components that are virtualized in the same way as the application with which it must integrate.