KEY CONTRACT TERMS

For

Master Agreement WRESA-12222022-264-01-A

Contract Between:	Wayne RESA and Applied Innovation
Contract Purpose:	Master Agreement for Document Storage Solution for Wayne RESA authorized CoPro+ Members
Contract Number:	WRESA-12222022-264-01- **A**
RFP Number:	WRESA-12222022-264-01
Contractor Name:	Applied Innovation
Contractor Address:	24050 Northwestern Hwy Southfield, MI 48075
Contractor Telephone:	248-890-4068
Contract Administrator:	Wayne RESA Designee/CoPro+
Base Contract Years:	July 1, 2023 – June 30, 2024
Option Years:	July 1, 2024 – June 30, 2025 (Option Year 1) July 1, 2025 – June 30, 2026 (Option Year 2) July 1, 2026 – June 30, 2027 (Option Year 3) July 1, 2027 – June 30, 2028 (Option Year 4)
Pricing:	Refer to Section 2.1 and Attachment A
Administrative Fee:	2.0%
Terms & Conditions:	Refer to Section 3
Ordering Options:	Phone or Email
Payment Options:	Purchase Order or Direct Voucher
Miscellaneous Information:	THIS AGREEMENT IS EXTENDED TO AUTHORIZED COPRO+ MEMBERS

Signature of Contractor's Duly Authorized Representative

THIS CONTRACT MUST BE SIGNED IN INK BY AN AUTHORIZED REPRESENTATIVE OF THE CONTRACTOR; ANY ALTERATIONS OR ERASURES TO THE OFFER MUST BE INITIALED IN INK BY THE UNDERSIGNED AUTHORIZED REPRESENTATIVE.

The undersigned acknowledges, attests and certifies individually an on behalf of the Contractor that:

(1) He/she is an Authorized Representative of the Contractor, has been authorized by Contractor to make all representations, attestations, and certifications contained in this Contract, if any, issued, and to execute this Contract on behalf of Contractor; (2) Contractor is bound by and will comply with all requirements, specifications, and terms and conditions contained in this Contract (including all listed attachments and Addenda, if any, issued; (3) Contractor will furnish the designated Goods in accordance with the Contract specifications and requirements, and will comply in all respects with the terms of the resulting Contract upon award; and (4) All affirmations contained in the RFP are true and correct.

CONTRACTOR: WAYNE RESA:

Applied Innovation   Kurt Rheaume / Executive Dir., IT Solutions

_____   _____
Firm Name   Name/Title

_____   _____
Authorized Representative Signature   Authorized Signature

Casey Lowery   COO   7/28/2023
_____   _____
Print Name/Title   Date

7·18·23
_____
Date

SECTION ONE: CONTRACT REQUIREMENTS

1.1   Scope of Work

Wayne RESA, in partnership with the Michigan Association of Counties (MAC) CoPro+ Program, has awarded multiple Master Agreements to contractors for a county-wide Document Repository Management System for consortium districts. Individual Districts or Districts/ISDs outside of the Consortium may elect to participate. For additional requirements and scope of work, see RFP and the awarded proposal response.

1.2   Service Capabilities

  a) Communication Plan/Contract Management

      i)   The Contractor shall have an accessible customer service department with an individual specifically assigned to Wayne RESA. Customer inquiries should be responded to within forty-eight (48) hours or two (2) business days unless it is an emergency issue.

  b) Primary Account Representative

      i)   Michael Hizer
            24050 Northwestern Highway, Southfield, MI 48075
            248-890-4068
            mhizer@appliedinnovation.com

1.3   Quotes/Order/Delivery/Inspection

Requests for quotes will be initiated by participating agencies as specific needs arise. Participating agencies will issue individual detailed specifications along with specific response information required, deliverables, and any special terms and conditions. Contractor will respond directly to the requesting agency. The participating agency will issue their own purchase order and payments.

All services furnished must be in conformity with the participating agency specifications and will be subject to inspection and acceptance by the individual customers.

SECTION 2.0 – PRICING REQUIREMENTS & SCHEDULE

2.1   Pricing Schedule

      2.1.1   Pricing Schedule Worksheets

      See Pricing Attachment A.

      2.1.2   Tax Excluded from Price
      (a) Sales Tax: Wayne RESA and local units of government are exempt from sales tax for direct purchases. The contractor's prices must not include sales tax.

      (b) Federal Excise Tax: Governmental entities may be exempt from Federal Excise Tax, or the taxes may be reimbursable, if articles purchased under any resulting Contract are used for the State's exclusive use. Certificates showing exclusive use for the purposes of substantiating a tax-free, or tax-reimbursable sale will be sent upon request. If a sale is tax exempt or tax reimbursable under the Internal Revenue Code, the contractor's prices must not include the Federal Excise Tax.

      2.1.3 The contractor agrees to provide pricing to Wayne RESA and its participating entities that are the lowest pricing available and the pricing shall remain so throughout the duration of the contract. The contractor agrees to promptly lower the cost of any product purchased through Wayne RESA and its participating entities following a reduction in the manufacturer or publisher's direct cost. Price increases must be approved by Wayne RESA. However, the contractor must honor previous prices for thirty (30) days after approval and written notification from Wayne RESA if requested. If contractor has existing cooperative contracts in place, Wayne RESA requests equal or better than pricing to be submitted.

2.2   Administrative Fee

      All pricing submitted to Wayne RESA and its participating entities shall include 2.0% remittance fee to be remitted to CoPro+ by the contractor on a quarterly basis. Administrative fees will be paid against actual sales volume for each quarter. It is the contractor's responsibility to keep all pricing up to date and on file with Wayne RESA/CoPro+. All price changes shall be presented to Wayne RESA for acceptance, using the same format as was accepted in the original contract.

SECTION 3.0 - TERMS AND CONDITIONS

1. **Wayne RESA Rights & Responsibilities**

   Wayne RESA has the right to amend a bid by one or more written addendums. Wayne RESA is responsible only for that, which is expressly stated in the solicitation document and any authorized written addenda thereto. Each addendum shall be made available to each person or organization, which Wayne RESA records indicate has received a bid.

   Should any such addendum require additional information not previously requested, failure to address the requirements of such addendum may result in the Proposal not being considered, as determined in the sole discretion of Wayne RESA. Wayne RESA is not responsible for and shall not be bound by any representations otherwise made by any individual acting or purporting to act on its behalf.

2. **Conflict of Interest**

   No Wayne RESA employee or agent whose position in Wayne RESA enables him/her to influence the selection of a Supplier for this Solicitation, or any competing solicitation, nor any spouse of economic dependent of such employees, shall be employed in any capacity by a Proposer or have any other direct or indirect financial interest in the selection of a Supplier.

3. **Gratuities**

   It is improper for any Wayne RESA officer, employee or agent to solicit consideration, in any form, from a Proposer with the implication, suggestion or statement that the Proposer's provision of the consideration may secure more favorable treatment for the Proposer in the award of the Master Agreement or that the Proposer's failure to provide such consideration may negatively affect Wayne RESA's consideration of the Proposer's submission.

   A Proposer shall not offer or give either directly or through an intermediary, consideration, in any form, to a Wayne RESA officer, employee or agent for the purpose of securing favorable treatment with respect to the award of the Master Agreement.

4. **Laws**

4.1   General Authority

This Contract is governed by, and construed according to, the substantive laws of the State of Michigan without regard to any Michigan choice of law rules that would apply the substantive law of another jurisdiction to the extent not inconsistent with or preempted by federal law.

4.2   Compliance with Laws

The Contractor must comply with all applicable federal, state, and local laws and ordinances in providing the products and services.

4.3   Jurisdiction

Any dispute arising from the Contract must be resolved in the State of Michigan. With respect to any claim between the parties, the Contractor consents to venue in Wayne County, Michigan, and irrevocably waives any objections to this venue that it may have, such as lack of personal jurisdiction or forum non-conveniens. The Contractor must appoint agents in the State of Michigan to receive service of process.

4.4   Nondiscrimination

In the performance of the Contract, the Contractor agrees not to discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, marital status, or physical or mental disability. The Contractor further agrees that every subcontract entered into for the performance of this Contract will contain a provision requiring non-discrimination in employment, as specified here, binding upon each Subcontractor. This covenant is required under the Elliott-Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, et seq., and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, et seq., and any breach of this provision may be regarded as a material breach of the Contract.

4.5   Unfair Labor Practices

Under 1980 PA 278, MCL 423.321, et seq., Wayne RESA must not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled under MCL 423.322. This information is compiled by the United States National Labor Relations Board. A Contractor of Wayne RESA, in relation to the Contract, must not enter into a contract with a Subcontractor, manufacturer, or supplier whose name appears in this register. Under MCL 423.324, Wayne RESA may void any Contract if, after award of the Contract, the name of the Contractor as an employer or the name of the Subcontractor, manufacturer or supplier of the Contractor appears in the register.

4.6   Environmental Provision

For the purposes of this section, "Hazardous Materials" include asbestos, ACBMs, PCBs, petroleum products, construction materials including paint thinners, solvents, gasoline, oil, and any other material the manufacture, use, treatment, storage, transportation or disposal of which is regulated by the federal, state, or local laws governing the protection of the public health, natural resources, or the environment:

(a) The Contractor must use, handle, store, dispose of, process, transport, and transfer any Hazardous Material according to all federal, State, and local laws. Wayne RESA must immediately advise the Contractor of the presence of any known Hazardous Material at the work site. If the Contractor encounters material reasonably believed to be Hazardous Material that may present a substantial danger, the Contractor must: (i) immediately stop all affected work; (ii) notify Wayne RESA; (iii) notify any entities required by law; and (iv) take appropriate health and safety precautions.

(b) Wayne RESA may issue a Stop Work Order if the material is a Hazardous Material that may present a substantial danger and the Hazardous Material was not brought to the site by the Contractor, or does not wholly or partially result from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Materials. Wayne RESA may remove the Hazardous Material, render it harmless, or terminate the affected work for Wayne RESA's convenience.

(c) If the Hazardous Material was brought to the site by the Contractor, or wholly or partially results from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Material, or from any other act or omission within the control of the Contractor, the Contractor must bear its proportionate share of the delay and costs involved in cleaning up the site and removing and rendering harmless the Hazardous Material according to applicable laws.

The Contractor must comply with all applicable federal, state, and local laws and ordinances in providing the products and services.

4.7   Freedom of Information

This Contract and all information submitted to Wayne RESA by the Contractor is subject to the Michigan Freedom of Information Act (FOIA), 1976 PA 442, MCL 15.231, et seq.

4.8   Abusive Labor Practices

The Contractor may not furnish any deliverable(s) that were produced fully or partially by forced labor, convict labor, forced or indentured child labor, or indentured servitude.

"Forced or indentured child labor" means all work or service (1) exacted from any person under the age of 18 under the menace of any penalty for its nonperformance and for which the worker does not offer himself voluntarily; or (2) performed by any person under the age of 18 under a contract the enforcement of which can be accomplished by process or penalties.

5.   General Provisions

5.1   *Bankruptcy and Insolvency*

Wayne RESA may, without prejudice to any other right or remedy, fully or partially terminate this contract and, at its option, take possession of the work-in-progress and finish the work-in-progress by whatever method Wayne RESA deems appropriate if:

(a) the Contractor files for bankruptcy protection;

(b) an involuntary petition is filed against the Contractor and not dismissed within 30 days;

(c) the Contractor becomes insolvent or a receiver is appointed due to the Contractor's insolvency;

(d) the Contractor makes a general assignment for the benefit of creditors; or

(e) the Contractor or its affiliates are unable to provide reasonable assurances that the Contractor or its affiliates can provide the deliverable(s) under this contract.

Contractor will place appropriate notices or labels on the work-in-progress to indicate ownership by Wayne RESA To the extent reasonably possible, work-in-progress must be stored separately from other stock and marked conspicuously with labels indicating Wayne RESA ownership.

5.2   *Media Releases*

News releases (including promotional literature and commercial advertisements) pertaining to the solicitation and this Contract or the project to which it relates will not be made without prior approval by Wayne RESA, and only in accordance with the instructions from Wayne RESA

5.3   *Antitrust Assignment*

The Contractor assigns to Wayne RESA any claim for overcharges resulting from county or federal antitrust violations to the extent that those violations concern materials or services supplied by third parties toward fulfillment of the contract.

5.4   *Legal Effect*

Wayne RESA is not liable for costs incurred by the Contractor or for payment(s) under this contract until the Contractor is authorized to perform under Section 1.3, Quotes/Order/Delivery/Inspection.

5.5 Entire Agreement

This contract constitutes the entire agreement between the parties and supersedes all prior agreements, whether written or oral, with respect to the subject matter. All attachments referenced in this contract are incorporated in their entirety and form part of this contract.

5.6 Order of Precedence

Any inconsistency in the terms associated with this contract will be resolved by giving precedence to the terms in the following descending order:

(a) Mandatory sections (Contract Term, Legal Effect, Insurance, Indemnification, Termination, Governing Law, Limitation of Liability):

(b) The most recent Statement of Work related to this contract;

(c) All sections from Section 4 - Terms and Conditions, not listed in subsection (a);

(d) Any attachment or exhibit to the contract documents;

(e) Any Purchase Order, Direct Voucher, or Procurement Card Order issued under the contract; and

(f) Proposer Responses contained in any of the solicitation documents.

5.7 Headings

The captions and section headings used in this contract are for convenience only and may not be used to interpret the scope and intent of this contract.

5.8 Reformation and Severability

Each provision of the contract is severable from all other provisions of the contract. If any provision of this contract is held unenforceable, then the contract will be modified to reflect the parties' original intent. All remaining provisions of the contract remain in full force and effect.

5.9 Approval

Unless otherwise provided in this contract, approval(s) must be in writing and must not be unreasonably withheld or delayed.

5.10 No Waiver of Default

Failure by a party to insist upon strict adherence to any term of the contract does not waive that party's right to later insist upon strict adherence to that term, or any other term, of the contract.

5.11   Survival

The provisions of this contract that impose continuing obligations, including warranties, indemnification, and confidentiality, will survive the expiration or termination of this contract.

5.12   Electronic Payment Requirement

The Contractor must state if they are able to receive electronic fund transfer (EFT) payments.

5.13   Cooperation with Third Parties

The Contractor and its Subcontractors must cooperate with Wayne RESA and its agents and other contractors, including Wayne RESA's quality assurance personnel. The Contractor must provide reasonable access to its personnel, systems, and facilities related to the contract to the extent that access will not interfere with or jeopardize the safety or operation of the systems or facilities.

5.14   Relationship of the Parties

The relationship between Wayne RESA and Contractor is that of client and independent contractor. No agent, employee, or servant of the Contractor, or any of its subcontractors, is an employee, agent or servant of Wayne RESA. The Contractor will be solely and entirely responsible for its acts and the acts of its agents, employees, servants, and subcontractors during the performance of the Contract.

5.15   Time of Performance

(a) The Contractor must immediately notify Wayne RESA upon becoming aware of any circumstances that may reasonably be expected to jeopardize the completion of any Deliverable(s) by the scheduled due dates in the latest Wayne RESA-approved delivery schedule and must inform Wayne RESA of the projected actual delivery date.

(b) If the Contractor believes that a delay in performance by Wayne RESA has caused or will cause the Contractor to be unable to perform its obligations according to specified contract time periods, the Contractor must immediately notify Wayne RESA and, to the extent practicable, continue to perform its obligations according to the contract time periods. The Contractor will not be in default for a delay in performance to the extent the delay is caused by Wayne RESA

5.16   Excusable Failure

Neither party will be liable for any default, damage or delay in the performance of its obligations that is caused by government regulations or requirements, power failure, electrical surges or current fluctuations, war, forces of nature or acts of God, delays or failures of transportation, equipment shortages, suppliers' failures, acts or omissions of common carriers, fire, riots, civil disorders, labor disputes, embargoes, injunctions (provided the injunction was not issued as a result of any

fault or negligence of the party seeking to have its default or delay excused), or any other cause beyond the reasonable control of a party; provided the non-performing party and any Subcontractors are without fault in causing the default or delay, and the default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans, or other means, including disaster recovery plans.

If a party does not perform its contractual obligations for any of the reasons listed, the non-performing party will be excused from any further performance of its affected obligation(s) for as long as the circumstances prevail. The non-performing party must promptly notify the other party immediately after the excusable failure occurs, and when it abates or ends. Both parties must use commercially reasonable efforts to resume performance.

If any of the reasons listed substantially prevent, hinder, or delay the Contractor's performance of the deliverable(s) for more than 10 days, and Wayne RESA reasonably determines that performance is not likely to be resumed within a period of time that is satisfactory to Wayne RESA, Wayne RESA may: (a) procure the affected deliverable(s) from an alternate source without liability for payment so long as the delay in performance continues; or (b) terminate any portion of the Contract so affected and equitably adjust charges payable to the Contractor to reflect those deliverable(s) that are terminated. Wayne RESA must pay for all deliverable(s) for which Final Acceptance has been granted before the termination date.

The Contractor will not have the right to any additional payments from Wayne RESA as a result of any Excusable Failure or to payments for deliverable(s) not provided as a result of the Excusable Failure. The Contractor will not be relieved of a default or delay caused by acts or omissions of its Subcontractors except to the extent that a Subcontractor experiences an Excusable Failure and the Contractor cannot reasonably circumvent the effect of the Subcontractor's default or delay in performance through the use of alternate sources, workaround plans, or other means, including disaster recovery plans.

5.17   Retention of Records
(a) The Contractor must retain all financial and accounting records related to this Contract for a period of seven years after the Contractor performs any work under this contract (Audit Period).
(b) If an audit, litigation, or other action involving the Contractor's records is initiated before the end of the Audit Period, the Contractor must retain the records until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

5.18   Examination of Records

Wayne RESA, upon 10 days notice to the Contractor, may examine and copy any of the Contractor's records that relate to this contract. Wayne RESA does not have the right to review any information deemed confidential by the Contractor if access would require the information to become publicly available. This requirement also applies to the records of any parent, affiliate, or subsidiary organization of the Contractor, or any Subcontractor that performs services in connection with this contract.

5.19   Audit Resolution

If necessary, the Contractor and Wayne RESA will meet to review any audit report promptly after its issuance. The Contractor must respond to each report in writing within 30 days after receiving the report, unless the report specifies a shorter response time. The Contractor and Wayne RESA must develop, agree upon, and monitor an action plan to promptly address and resolve any deficiencies, concerns, or recommendations in the report.

5.20   Errors

(a) If an audit reveals any financial errors in the records provided to Wayne RESA, the amount in error must be reflected as a credit or debit on the next invoice and subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried forward for more than four invoices or beyond the termination of the contract. If a balance remains after four invoices, the remaining amount will be due as a payment or refund within 45 days of the last invoice on which the balance appeared or upon termination of the contract, whichever is earlier.

(b) In addition to other available remedies, if the difference between Wayne RESA's actual payment and the correct invoice amount, as determined by an audit, is greater than 10%, the Contractor must pay all reasonable audit costs.

5.21   Disclosure of Litigation

(a) Within 30 days after receiving notice of any litigation, investigation, arbitration, or other proceeding (collectively, "Proceeding") that arises during the term of this Contract, the Contractor must disclose the following to the Contract Administrator:

(i) A criminal Proceeding involving the Contractor (or any Subcontractor) or any of its officers or directors;

(ii) A parole or probation proceeding;

(iii) A proceeding involving the Contractor (or any Subcontractor) or any of its officers or directors under the Sarbanes-Oxley Act; and

(iv) A civil proceeding to which the Contractor (or, if the Contractor is aware, any Subcontractor) is a party, and which involves (A) a claim that might reasonably be expected to adversely affect the viability or financial stability of the Contractor or any Subcontractor; or (B) a claim or written allegation of

fraud against the Contractor (or, if the Contractor is aware, any Subcontractor) by a governmental or public entity arising out of the Contractor's business dealings with governmental or public entities.

(b) Information provided to Wayne RESA from the Contractor's publicly filed documents will satisfy the requirements of this Section.

(c) If any proceeding that is disclosed to Wayne RESA or of which Wayne RESA otherwise becomes aware, during the term of this Contract, would cause a reasonable party to be concerned about:

(i) the ability of the Contractor (or a Subcontractor) to continue to perform this Contract; or

(ii) whether the Contractor (or a Subcontractor) is engaged in conduct that is similar in nature to the conduct alleged in the Proceeding and would constitute a breach of this contract or a violation of federal or state law, regulations, or public policy, then the Contractor must provide Wayne RESA all requested reasonable assurances that the Contractor and its Subcontractors will be able to continue to perform this contract.

5.22   *Other Disclosures*

The Contractor must notify Wayne RESA Administrator within 30 days of:

(a) becoming aware that a change in the Contractor's ownership or officers has occurred or is certain to occur; or

(b) any changes to company affiliations.

5.23   *CoPro+ Requirements*

(a) The Contractor will work with CoPro+ to ensure that all purchasers are members before extending the Contract pricing.

(b) To the extent that CoPro+ Members purchase Deliverable(s) under this contract, the quantities of Deliverable(s) purchased will be included in determining the appropriate rate wherever tiered pricing based on quantity is provided.

(c) The Contractor must submit invoices to and receive payment from CoPro+ Members, Participating Entities, on a direct and individual basis.

5.24   Bid Protest Process

Bid protests are filed by Vendors because they seek to remedy a wrong, actual or perceived, which could inflict or has inflicted injury or hardship to their company as a result of some action taken by Wayne RESA during the solicitation process. Common reasons for Vendors filing a bid protest include:

- The Master Agreement was awarded to Vendor with higher prices.
- The Vendor proposal was rejected for invalid reasons.
- The Vendor awarded the resultant Master Agreement did not comply with solicitation specifications.

1. General Authority

Wayne RESA Administrator maintains the exclusive authority and responsibility to purchase and rent all materials, supplies and equipment, furnishings, fixtures and all other personal property for use by Wayne RESA departments, districts or agencies which are governed by Wayne RESA's Board.

2. Protest Procedure

Upon a determination of Vendor selection from a bid process, the Purchasing Agent will post a "Notice of Intent to Award" on Wayne RESA's bid website, and notify all solicitation participants of the intended award via email.

A. Non-selected Vendors will have three (3) business days from the date the notice is posted to file a formal bid protest with Wayne RESA Administrator or the designee.

B. The bid protest, which must be received by Wayne RESA Administrator or designee within the three (3) day period, shall be in writing, and include the specific facts, circumstances, reasons and/or basis for the protest. This written notice may be in the form of a letter, fax or email.

C. Upon execution of the Master Agreement with the selected Vendor, Wayne RESA Administrator or designee will not take action on a bid protest, but a written response will be provided to the protesting Vendor.

D. If a Vendor's bid protest is appropriately filed, Wayne RESA Administrator or designee may delay the award of the Master Agreement until the matter is resolved.

E. Notwithstanding the foregoing, throughout the bid protest review process, Wayne RESA has no obligation to delay or otherwise postpone an award of a Master Agreement based on a bid protest. In all cases, Wayne RESA reserves the right to make an award when it is determined to be in the best interest of Wayne RESA to do so.

F. Wayne RESA Administrator or designee will respond to all bid protests in a timely manner.

6. Insurance

6.1 Liability Insurance

For the purpose of this Section, "Wayne RESA" includes its departments, divisions, agencies, offices, commissions, officers, employees, and agents.

(a) The following apply to all insurance requirements:

(i) Wayne RESA, in its sole discretion, may approve the use of a fully-funded self-insurance program in place of any specified insurance identified in this Section.

(ii) Where specific coverage limits are listed in this Section, they represent the minimum acceptable limits. If the Contractor's policy contains higher limits, Wayne RESA is entitled to coverage to the extent of the higher limits. The minimum limits of coverage specified are not intended, and may not be construed to limit any liability or indemnity of the Contractor to any indemnified party or other persons.

(iii) If the Contractor fails to pay any premium for a required insurance policy, or if any insurer cancels or significantly reduces any required insurance without Wayne RESA's approval, Wayne RESA may, after giving the Contractor at least 30-days notice, pay the premium or procure similar insurance coverage from another company or companies. Wayne RESA may deduct any part of the cost from any payment due the Contractor, or require the Contractor to pay that cost upon demand.

(b) The Contractor must:

(i) provide proof that it has obtained the minimum levels of insurance coverage indicated or required by law, whichever is greater. The insurance must protect Wayne RESA from claims that are alleged or may arise or result from the Contractor's or a Subcontractor's performance, including any person directly or indirectly employed by the Contractor or a Subcontractor, or any person for whose acts the Contractor or a Subcontractor may be liable.

(ii) waive all rights against Wayne RESA for the recovery of damages that are covered by the insurance policies the Contractor is required to maintain under this Section. The Contractor's failure to obtain and maintain the required insurance will not limit this waiver.

(iii) ensure that all insurance coverage provided relative to this Contract is primary and non-contributing to any comparable liability insurance (including self-insurance) carried by Wayne RESA

(iv) obtain insurance, unless Wayne RESA approves otherwise, from any insurer that has an A.M. Best rating of "A" or better and a financial size of VII or better, or if those ratings are not available, a comparable rating from an insurance rating agency approved by Wayne RESA All policies of insurance must be issued by companies that have been approved to do business in Wayne RESA

(v) maintain all required insurance coverage throughout the term of this Contract and any extensions. However, in the case of claims-made Commercial General Liability policies, the Contractor must secure tail coverage for at least three years following the termination of this Contract.

(vi) pay all deductibles.

6.2 *Subcontractor Insurance Coverage*

Except where Wayne RESA has approved a subcontract with other insurance provisions, the Contractor must require any Subcontractor to purchase and maintain the insurance coverage required in Section 6.1, Liability Insurance. Alternatively, the Contractor may include a Subcontractor under the Contractor's insurance on the coverage required in that Section. The failure of a Subcontractor to comply with insurance requirements does not limit the Contractor's liability or responsibility.

6.3   Certificates of Insurance and Other Requirements

Before the Contract is signed, and not less than 20 days before the insurance expiration date every year thereafter, the Contractor must provide evidence that Wayne RESA and its agents, officers, and employees are listed as additional insured's under each commercial general liability and commercial automobile liability policy. The Contractor must provide Wayne RESA Administrator with all applicable certificates of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in Section 6.1, Liability Insurance. Each certificate must be on the standard "accord" form or equivalent and MUST CONTAIN THE APPLICABLE CONTRACT OR PURCHASE ORDER NUMBER. Each certificate must be prepared and submitted by the insurer and must contain a provision indicating that the coverage afforded will not be cancelled, materially changed, or not renewed without 30 days prior notice, except for 10 days for nonpayment of premium, to Wayne RESA Administrator.

7.   Indemnification

7.1   General Indemnification

To the extent permitted by law, the Contractor must indemnify, defend, and hold Wayne RESA harmless from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties), accruing or resulting to any person, firm, or corporation that may be injured or damaged by the Contractor in the performance of this Contract and that are attributable to the negligence or tortious acts of the Contractor, any of its subcontractors, or by anyone else for whose acts any of them may be liable.

7.2   Employee Indemnification

In any claims against Wayne RESA, its departments, agencies, commissions, officers, employees, and agents, by any employee of the Contractor or any of its subcontractors, the indemnification obligation will not be limited in any way by the amount or type of damages, compensation, or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefit acts, or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.

7.3   Patent/Copyright Infringement Indemnification

(a) To the extent permitted by law, the Contractor must indemnify and hold Wayne RESA harmless from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest, and penalties) resulting from any action threatened or brought against Wayne RESA to the

extent that the action is based on a claim that any piece of equipment, software, commodity, or service supplied by the Contractor or its subcontractors, or its operation, use, or reproduction, infringes any United States patent, copyright, trademark or trade secret of any person or entity.

(b) If, in Wayne RESA's or the Contractor's opinion, any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or its operation, use, or reproduction, is likely to become the subject of an infringement claim, the Contractor must, at its expense: (i) procure for the State the right to continue using the equipment, software, commodity or service or, if this option is not reasonably available to the Contractor; (ii) replace or modify to Wayne RESA's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if this option is not reasonably available to Contractor; (iii) accept its return by Wayne RESA with appropriate credits to Wayne RESA against the Contractor's charges and reimburse Wayne RESA for any losses or costs incurred as a consequence of Wayne RESA ceasing its use and returning it.

(c) Notwithstanding the foregoing, the Contractor has no obligation to indemnify or defend Wayne RESA for, or to pay any costs, damages or attorneys' fees related to, any infringement claim based upon: (i) equipment, software, commodity or service developed based on written specifications of Wayne RESA; (ii) use of the equipment, software, or commodity in a configuration other than implemented or approved by the Contractor, including any modification of the same by Wayne RESA; or (iii) the combination, operation, or use of the equipment, software, or commodity with equipment, software, or commodities not supplied by the Contractor under this Contract.

7.4   *Continuing Obligation*

The Contractor's duty to indemnify continues in full force and effect, notwithstanding the expiration or early cancellation of the contract, with respect to any claims based on facts or conditions that occurred before expiration or cancellation.

7.5   *Limitation of Liability*

Neither the Contractor nor Wayne RESA is liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages. This limitation of liability does not apply to claims for infringement of United States patent, copyright, trademark or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this contract calling for liquidated damages; or to court costs or attorneys' fees awarded by a court in addition to damages after litigation based on this.

8. Warranties

8.1 Warranties and Representations

The Contractor represents and warrants:

(a) It is capable of fulfilling and will fulfill all of its obligations under this contract. The performance of all obligations under this contract must be provided in a timely, professional, and workmanlike manner and must meet the performance and operational standards required under this contract.

(b) The contract appendices, attachments, and exhibits identify the equipment, software, and services necessary for the Deliverable(s) to comply with the contract's requirements.

(c) It is the lawful owner or licensee of any Deliverable licensed or sold to Wayne RESA by Contractor or developed by the Contractor for this contract, and Contractor has all of the rights necessary to convey to Wayne RESA the ownership rights or licensed use, as applicable, of any Deliverable(s). None of the Deliverable(s) provided by Contractor to Wayne RESA, nor their use by Wayne RESA, will infringe the patent, trademark, copyright, trade secret, or other proprietary rights of any third party.

(d) If the Contractor procures any equipment, software, or other Deliverable(s) for Wayne RESA (including equipment, software, and other Deliverable(s) manufactured, re-marketed or otherwise sold by the Contractor or under the Contractor's name), then the Contractor must assign or otherwise transfer to Wayne RESA or its designees, or afford Wayne RESA the benefits of, any manufacturer's warranty for the Deliverable(s).

(e) The contract signatory has the authority to enter into this contract on behalf of the Contractor.

(f) It is qualified and registered to transact business in all locations where required.

(g) Neither the Contractor nor any affiliates, nor any employee of either, has, will have, or will acquire, any interest that would conflict in any manner with the Contractor's performance of its duties and responsibilities to Wayne RESA or otherwise create an appearance of impropriety with respect to the award or performance of this contract. The Contractor must notify Wayne RESA about the nature of any conflict or appearance of impropriety within two days of learning about it.

(h) Neither the Contractor nor any affiliates, nor any employee of either, has accepted or will accept anything of value based on an understanding that the actions of the Contractor, its affiliates, or its employees on behalf of Wayne RESA would be influenced. The Contractor must not attempt to influence any Wayne RESA employee by the direct or indirect offer of anything of value.

(i) Neither the Contractor nor any affiliates, nor any employee of either, has paid or agreed to pay any person, other than bona fide employees and consultants working solely for the Contractor or the affiliate, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract.

(j) The Contractor arrived at its proposed prices independently, without communication or agreement with any other Proposer for the purpose of restricting competition. The Contractor did not knowingly disclose its quoted prices for this contract to any other Proposer before the award of the contract. The Contractor made no attempt to induce any other person or entity to submit or not submit a proposal for the purpose of restricting competition.

(k) All financial statements, reports, and other information furnished by the Contractor to Wayne RESA in connection with the award of this contract fairly and accurately represent the Contractor's business, properties, financial condition, and results of operations as of the respective dates covered by the financial statements, reports, or other information. There has been no material adverse change in the Contractor's business, properties, financial condition, or results of operation.

(l) All written information furnished to Wayne RESA by or for the Contractor in connection with the award of this contract is true, accurate, and complete, and contains no false statement of material fact nor omits any material fact that would make the submitted information misleading.

(m) It will immediately notify Wayne RESA Administrator if any of the certifications, representations, or disclosures made in the Contractor's original bid response change after the contract is awarded.

8.2   *RESERVED*

8.3   *RESERVED*

8.4   *Warranty of Title*
The Contractor must convey good title to any Deliverable(s) provided to Wayne RESA All Deliverable(s) provided by the Contractor must be delivered free from any security interest, lien, or encumbrance of which Wayne RESA, at the time of contracting, has no knowledge. Deliverable(s) provided by the Contractor must be delivered free of any rightful claim of infringement by any third person.

8.5   *Consequences for Breach*
In addition to any remedies available in law, if the Contractor breaches any of the warranties contained in Section 8, Warranties, the breach may be considered a material default.

9.   Contract Administration

9.1 Issuing Office

This Contract is issued by Wayne RESA on behalf of all counties and local units of government. Wayne RESA Administrator or designee is the only entity authorized to modify the terms and conditions of this contract, including the prices and specifications. The Contract Administrator will be designated at the time of the contract award.

9.2 Contract Administrator

The Contract Administrator will monitor and coordinate contract activities on a day-to-day   basis.

9.3 Contract Changes

(a) If Wayne RESA requests or directs the Contractor to provide any Deliverable(s) that the Contractor believes are outside the scope of the Contractor's responsibilities under the contract, the Contractor must notify Wayne RESA before performing the requested activities. If the Contractor fails to notify Wayne RESA, any activities performed will be considered in-scope and not entitled to additional compensation or time. If the Contractor begins work outside the scope of the contract and then ceases performing that work, the Contractor must, at the request of Wayne RESA, retract any out-of-scope work that would adversely affect the contract.

(b) Wayne RESA or the Contractor may propose changes to the contract. If the Contractor or Wayne RESA requests a change to the Deliverable(s) or if Wayne RESA requests additional Deliverable(s), the Contractor must provide a detailed outline of all work to be done, including tasks, timeframes, listing of key personnel assigned, estimated hours for each individual per Deliverable, and a complete and detailed cost justification. If the parties agree on the proposed change, Wayne RESA Administrator will prepare and issue a notice that describes the change, its effects on the Deliverable(s), and any affected components of the contract (Contract Change Notice).

(c) No proposed change may be performed until Wayne RESA issues a duly executed Contract Change Notice for the proposed change.

9.4 Price Changes

Prices quoted on all bids, are the maximum for a period of 365 days from the date the contract becomes effective. Requested changes may include increases or decreases in price and must be accompanied by supporting information indicating market support of proposed modifications (such as the CPI and PPI, US City Average, as published by the US Department of Labor, Bureau of Labor Statistics).

(a) Wayne RESA may request a review upon 30 days written notice that specifies what deliverable is being reviewed. At the review, each party may present supporting information including information created by, presented, or received from third parties.

(b) Following the presentation of supporting information, both parties will have 30 days to review the supporting information and prepare any written response.

(c) In the event the review reveals no need for modifications of any type, pricing will remain unchanged unless mutually agreed to by the parties. However, if the review reveals that changes may be recommended, both parties will negotiate in good faith for 30 days unless extended by mutual agreement of the parties.

(d) If the supporting information reveals a reduction in prices is necessary and Contractor agrees to reduce rates accordingly, then Wayne RESA may elect to exercise the next one-year option, if available.

(e) If the supporting information reveals a reduction in prices is necessary and the parties are unable to reach agreement, then Wayne RESA may eliminate all remaining contract renewal options.

(f) Any changes based on the review must be implemented through the issuance of a Contract Change Notice.

9.5   *Covenant of Good Faith*

Each party must act reasonably and in good faith. Unless otherwise provided in this contract, the parties will not unreasonably delay, condition or withhold their consent, decision, or approval any time it is requested or reasonably required in order for the other party to perform its responsibilities under the contract.

9.6   *Assignments*

(a) Neither party may assign this contract, or assign or delegate any of its duties or obligations under the contract, to another party (whether by operation of law or otherwise), without the prior approval of the other party. Wayne RESA may, however, assign this contract to any other Wayne RESA, or local unit of government without the prior approval of the Contractor.

(b) If the Contractor intends to assign this contract or any of the Contractor's rights or duties under the contract, the Contractor must notify Wayne RESA and provide adequate information about the assignee at least 90 days before the proposed assignment or as otherwise provided by law or court order. Wayne RESA may withhold approval from proposed assignments, subcontracts, or novations if Wayne RESA determines, in its sole discretion, that the transfer of responsibility would decrease Wayne RESA's likelihood of receiving performance on the contract or Wayne RESA's ability to recover damages.

(c) If Wayne RESA permits an assignment of the Contractor's right to receive payments, the Contractor is not relieved of its responsibility to perform any of its contractual duties. All payments must continue to be made to one entity.

9.7   *Criminal Background Checks*

Supplier hereby certifies that any employees, subcontractors and volunteers of the Supplier who will have duties related to the contracted services; have passed a Wayne RESA criminal history background check if required.

10.   Acceptance of Deliverables

10.1   *Delivery Responsibilities*

Unless otherwise specified by Wayne RESA, the following are applicable to all deliveries:

(a) The Contractor is responsible for delivering the deliverable(s) by the applicable delivery date to the location(s) specified in the SOW or individual Purchase Order.

(b) The Contractor must ship the deliverable(s) "F.O.B. Destination, within Government Premises."

(c) Wayne RESA will examine all packages at the time of delivery. The quantity of packages delivered must be recorded and any obvious visible or suspected damage must be noted at the time of delivery using the shipper's delivery document(s) and appropriate procedures to record the damage.

10.2   *Process for Acceptance of Deliverable(s)*

Wayne RESA's review period for acceptance of the deliverable(s) is governed by the applicable Statement of Work, and if the Statement of Work does not specify Wayne RESA's review period, it is by default 30 days for a deliverable (Wayne RESA Review Period). Wayne RESA will notify the Contractor by the end of Wayne RESA Review Period that either:

(a) the deliverable is accepted in the form delivered by the Contractor;

(b) the deliverable is accepted, but noted deficiencies must be corrected; or

(c) the deliverable is rejected along with notation of any deficiencies that must be corrected before acceptance of the deliverable.

If Wayne RESA delivers to the Contractor a notice of deficiencies, the Contractor will correct the described deficiencies and within 30 Days resubmit the deliverable(s) with an explanation that demonstrates all corrections have been made to the original deliverable(s). The Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected deliverable from the Contractor, Wayne RESA will have a reasonable additional period of time, not to exceed 30 Days, to accept the corrected deliverable.

10.3   *Acceptance of Deliverable(s)*

(a) Wayne RESA's obligation to comply with any Wayne RESA Review Period is conditioned on the timely delivery of the deliverable(s). Wayne RESA Review Period will begin on the first business day following Wayne RESA's receipt of the deliverable(s).

(b) Wayne RESA may inspect the deliverable to confirm that all components have been delivered without material deficiencies. If Wayne RESA determines that the

deliverable or one of its components has material deficiencies, Wayne RESA may reject the deliverable without performing any further inspection or testing.

(c) Wayne RESA will only approve a deliverable after confirming that it conforms to and performs according to its specifications without material deficiency. Wayne RESA may, in its discretion, conditionally approve a deliverable that contains material deficiencies if Wayne RESA elects to permit the Contractor to correct those deficiencies post-approval. The Contractor remains responsible for working diligently to correct within a reasonable time at the Contractor's expense, all deficiencies in the deliverable that remain outstanding at the time of Wayne RESA approval.

(d) If, after three opportunities the Contractor is unable to correct all deficiencies, Wayne RESA may: (i) demand that the Contractor cure the failure and give the Contractor additional time to do so at the sole expense of the Contractor; (ii) keep the Contract in force and perform, either itself or through other parties, whatever the Contractor has failed to do, and recover the difference between the cost to cure the deficiency and the Contract price plus an additional amount equal to 10% of Wayne RESA's cost to cure the deficiency; or (iii) fully or partially terminate the Contract for default by giving notice to the Contractor. Notwithstanding the foregoing, Wayne RESA cannot use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat Wayne RESA Review Period that could reasonably have been discovered during a prior Wayne RESA Review Period.

(e) Wayne RESA, at any time and in its reasonable discretion, may reject the deliverable without notation of all deficiencies if the acceptance process reveals deficiencies in a sufficient quantity or of a sufficient severity that renders continuing the process unproductive or unworkable.

11.   Stop Work Order & Termination

11.1   Stop Work Order

Wayne RESA may, by issuing a Stop Work Order, require that the Contractor fully or partially stop work for a period of up to 90 calendar days, and for any further period to which the parties agree. Upon receipt of the Stop Work Order, the Contractor must immediately take all reasonable steps to minimize incurring costs. Within the period of the Stop Work Order, Wayne RESA must either: (a) terminate the Stop Work Order; or (b) terminate the work covered by the Stop Work Order.

11.2   Termination of Stop Work Order

The Contractor must resume work if Wayne RESA terminates a Stop Work Order or if it expires. The parties will agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract must be modified, if: (a) the Stop Work Order results in an increase in the time required for, or the Contractor's costs properly allocated to, the performance of the Contract; and (b) the Contractor asserts its right to an equitable adjustment within 20 days after the end of the Stop Work Order by submission of a request for adjustment to Wayne RESA; provided

that, Wayne RESA may receive and act upon the Contractor's request submitted at any time before final payment. Any adjustment will conform to the requirements of Section 9.3, Contract Changes.

11.3   *Allowance of the Contractor's Costs*

If Wayne RESA fully or partially terminates the work covered by the Stop Work Order, for reasons other than material breach, the termination is a termination for convenience under Section 11.6, Termination by Wayne RESA, and Wayne RESA will pay reasonable costs resulting from the Stop Work Order in arriving at the termination settlement. Wayne RESA is not liable to the Contractor for lost profits because of a Stop Work Order issued under Section 11.1, Stop Work.

11.4   *Notice and Right to Cure*

If the Contractor breaches the Contract, and Wayne RESA, in its sole discretion, determines that the breach is curable, Wayne RESA will provide the Contractor notice of the breach and a period of at least 30 days to cure the breach. Wayne RESA does not need to provide notice or an opportunity to cure for successive or repeated breaches or if Wayne RESA determines, in its sole discretion, that a breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage, or destruction of any real or tangible personal property.

11.5   *Termination for Cause*

(a) Wayne RESA may fully or partially terminate this Contract for cause by notifying the Contractor if the Contractor: (i) breaches any of its material duties or obligations (including a Chronic Failure to meet any SLA); or (ii) fails to cure a breach within the time period specified in a notice of breach provided by Wayne RESA

(b) The Contractor must pay all reasonable costs incurred by Wayne RESA in terminating this Contract for cause, including administrative costs, attorneys' fees and court costs, and any additional costs Wayne RESA incurs to procure the deliverable(s) from other sources. Re-procurement costs are not consequential, indirect, or incidental damages, and cannot be excluded by any other terms otherwise included in this Contract, provided the costs are not in excess of 50% more than the prices for the Deliverable(s).

(c) If Wayne RESA partially terminates this Contract for cause, any charges payable to the Contractor will be equitably adjusted to reflect those deliverable(s) that are terminated. Wayne RESA must pay for all deliverable(s) for which final acceptance has been granted before the termination date. Any services or related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.

(d) If Wayne RESA terminates this Contract for cause and it is determined, for any reason, that the Contractor was not in breach of the Contract, the termination will be deemed to have been a termination under Section 11.6,

Termination for Convenience, effective as of the same date, and the rights and obligations of the parties will be limited to those provided in that Section.

11.6   Termination for Convenience

Wayne RESA may fully or partially terminate this Contract for its convenience if Wayne RESA determines that a termination is in Wayne RESA's best interest. Reasons for the termination are within the sole discretion of Wayne RESA and may include: (a) Wayne RESA no longer needs the deliverable(s) specified in this Contract; (b) a relocation of office, program changes, or changes in laws, rules, or regulations make the Deliverable(s) no longer practical or feasible for Wayne RESA; (c) unacceptable prices for Contract changes; or (d) falsification or misrepresentation, by inclusion or non-inclusion, of information material to a response to any solicitation issued by Wayne RESA Wayne RESA may terminate this Contract for its convenience by giving Contractor notice at least 30 days before the date of termination. If Wayne RESA chooses to terminate this Contract in part, any charges payable to the Contractor must be equitably adjusted to reflect those deliverable(s) that are terminated.

11.7   Termination for Criminal Conviction

Wayne RESA may terminate this Contract immediately and without further liability or penalty if the Contractor, an officer of the Contractor, or an owner of a 25% or greater share of the Contractor is convicted of a criminal offense related to a Wayne RESA, public, or private Contract or subcontract.

11.8   Rights and Obligations upon Termination

(a) If Wayne RESA terminates this Contract for any reason, the Contractor must:

(i) stop all work as specified in the notice of termination;

(ii) take any action that may be necessary, or that Wayne RESA may direct, to preserve and protect deliverable(s) or other Wayne RESA property in the Contractor's possession;

(iii) return all materials and property provided directly or indirectly to the Contractor by any entity, agent, or employee of Wayne RESA;

(iv) transfer title in and deliver to Wayne RESA, unless otherwise directed, all deliverable(s) intended to be transferred to Wayne RESA at the termination of the Contract (which will be provided to Wayne RESA on an "As-Is" basis except to the extent Wayne RESA compensated the Contractor for warranty services related to the materials);

(v) to the maximum practical extent, take any action to mitigate and limit potential damages, including terminating or limiting subcontracts and outstanding orders for materials and supplies; and

(vi) take all appropriate action to secure and maintain Wayne RESA information confidentially.

(b) If Wayne RESA terminates this Contract under Section 11.6, Termination for Convenience, Wayne RESA must pay the Contractor all charges due for deliverable(s) provided before the date of termination and, if applicable, as a separate item of payment, for work-in-progress, based on a percentage of completion determined by Wayne RESA All completed or partially completed deliverable(s) prepared by the Contractor, at the option of Wayne RESA, become Wayne RESA's property, and the Contractor is entitled to receive equitable compensation for those deliverable(s). Regardless of the basis for the termination, Wayne RESA is not obligated to pay or otherwise compensate the Contractor for any lost expected future profits, costs, or expenses incurred with respect to deliverable(s) not actually completed.

(c) If Wayne RESA terminates this contract for any reason, Wayne RESA may assume, at its option, any subcontracts and agreements for deliverable(s), and may pursue completion of the deliverable(s) by replacement contract or as Wayne RESA deems expedient.

11.9   Reservation of Rights

In the event of any full or partial termination of this contract, each party reserves all rights or remedies otherwise available to the party.

11.10   Contractor Transition Responsibilities

If this Contract terminates under, Termination by Wayne RESA, the Contractor must make reasonable efforts to transition the performance of the work, including all applicable equipment, services, software, and leases, to Wayne RESA or a third party designated by Wayne RESA within a reasonable period of time that does not exceed 30 days from the date of termination. The Contractor must provide any required reports and documentation.

11.11   Termination by Contractor

If Wayne RESA breaches the contract and the Contractor, in its sole discretion, determines that the breach is curable, the Contractor will then provide Wayne RESA with notice of the breach and a time period (not less than 30 days) to cure the breach.

The Contractor may terminate this Contract if Wayne RESA: (a) materially breaches its obligation to pay the Contractor undisputed amounts due; (b) breaches its other obligations to an extent that

makes it impossible or commercially impractical for the Contractor to complete the deliverable(s); or (c) does not cure the breach within the time period specified in a notice of breach. The Contractor must discharge its obligations under Section 4.10, Dispute Resolution, before it terminates the contract.

ATTACHMENT A – PRICING

Contractor has been awarded an optional use contract to provide document storage solutions for local units of government and school districts within Wayne RESA, Michigan and surrounding areas. As a result of a competitive solicitation performed by Wayne RESA, municipalities and school districts have access to a pool of pre-qualified contractors available for document storage solutions. The vendors were competitively selected as having been qualified as defined during the Request for Proposals process. This contract enables public municipalities, non-profit organizations, and school districts to "piggyback" and purchase on an "as needed" basis from the contractors selected by this competitively awarded contract.

See Attachment A of Contractor's proposal for pricing details.

RFP #WRESA-12222022-264-01

REQUEST FOR PROPOSALS

FOR

Document Storage Solution

BID SUMMARY

Commodity/Service Being Requested: Document Storage Solution

Type of Solicitation: Request for Proposals (RFP) – Wayne RESA, in partnership with the Michigan Association of Counties (MAC) CoPro+ Program, is competitively bidding and awarding a Master Agreement to a contractor or contractors for a county-wide Document Repository Management System for consortium districts. Individual Districts or Districts/ISDs outside of the Consortium may elect to participate.

The following organizations have indicated their desire to participate in using the resulting contract and reserve the option to do so with the awarded proposer(s). Those marked with * have indicated their interest in a consortium/shared solution.

1. * Wayne RESA
2. * School District of the City of Wyandotte
3. * Dickinson-Iron ISD and ~~our~~ 6 LEAs within ISD
4. Crestwood School District
5. * Ionia County ISD
6. * Tuscola ISD
7. * Huron School District
8. * Livingston ESA
9. * Northwest Education Services
10. * Lincoln Park Public Schools
11. * Plymouth-Canton Community Schools
12. * Waverly Community Schools
13. * Dearborn Public Schools
14. Covenant House Academy Detroit
15. * Van Buren Public Schools
16. * Westwood Community School District
17. * Ingham ISD
18. Waverly Community Schools
19. * River Rouge School District
20. * Southgate Community Schools

The total student FTE count for the organizations is estimated at 81,801 and staff FTE count is estimated at 11,689.

Type of Resulting Contract: Statewide Cooperative Contract – As a result of this RFP, Wayne RESA will work with the Michigan Association of Counties CoPro+ program to market and extend the resulting contract to other public municipalities, non-profit organizations and schools statewide in having access to contract(s) for a Document Repository Management System. This contract will enable public municipalities, non-profit organizations, and schools to "piggyback" and purchase on an "as needed" basis from the supplier(s). Proposers shall identify any limitations on service areas within their proposal.

Resulting Contract Term: One (1) year with four (4) one-year renewal options.

RFP Schedule

Release of RFP:	**Thursday, December 22, 2022**
Pre Proposal Meeting:	**Monday, January 9, 2023 @ 1:00PM ET**
Vendor Question Due Date:	**Wednesday, January 18, 2023**
Questions and Answers Responses Posted:	**Friday, January 20, 2023**
Proposals Due by (12:00 P.M. EST) *:	**Friday, January 27, 2023 at 12p.m.**
Master Agreement Award Date:	**March 2023**

***Responses received later than the specified deadline will be disqualified.**

Wayne RESA reserves the right to change this schedule as needed and all information provided by Wayne RESA in this RFP is offered in good faith. Individual items are subject to change at any time. Wayne RESA makes no certification that any item is without error.

Document Storage Solution - Pre-Bid Meeting Details Time: Jan 9, 2023 01:00 PM Eastern Time	Join Zoom Meeting https://resa-net.zoom.us/j/89911060509 Meeting ID: 899 1106 0509 +1 312 626 6799,,89911060509# US (Chicago)

The Sole Point of Contact During this Solicitation Process is:

Steve Motz
purchasing@resa.net
(517) 648-0442

Contacts with Wayne RESA Personnel: All contact with Wayne RESA regarding this RFP or any matter relating thereto must be sent to the following email: purchasing@resa.net

Table of Contents

Solicitation Terms and Conditions can be found at https://www.resa.net/administrative-support/purchasing/request-for-proposal as (DOC) **CoPro+ Contract Terms and Conditions**"

SECTION 1.0 – PROPOSER RESPONSES TO SCOPE OF WORK AND PRICING

1.1   Minimum Mandatory Requirements

All proposals will be reviewed for compliance with the mandatory requirements. Proposals deemed non-responsive will be eliminated from further consideration.

Interested and qualified proposers that can demonstrate their ability to successfully provide the goods and services requested under this RFP are invited to submit proposal(s), provided they meet the following requirements:

1. Proposer must have successfully implemented their proposed document storage solution for one comparable customer within the last three years.

Proposer will enter responses in the "Proposer Response" text boxes provided. There is no requirement or limitation on the amount of words used for responses.

Proposer Response:

Thank you for allowing us to participate in this RFP. Please see our executive summary on page 1 of our attached proposal, along with a sampling of our references on page 3. Thank you!

1.2   Services Period

Proposals shall include the opportunity for separate databases and data transition. Separate costs must be provided in Attachment A – Pricing Schedule of the proposal. This service is for the time period from **July 1, 2023, through June 30, 2024**. Multiple year proposals will be considered.

Price should be held valid for one year to any district purchasing through this bid award.

Award of this proposal is contingent upon the approval of funding from Wayne RESA Board of Education.

Electronic forms of all bid documents are available online at: Wayne RESA Bid Documents

Selected Suppliers may be required to make oral or other presentations. Failure of a Supplier to conduct a presentation on the date scheduled may result in rejection of the Supplier's proposal. In addition, Wayne RESA may decide to make site visits to the selected Suppliers' reference sites or other sites provided by the Supplier.

1.3 Requirements

Proposer shall complete the Features Specification Table in Section 1.3.1, indicating if their solution supports the requirement or does not support the requirement in each row by checking the corresponding table cell. For responses, indicating, "Supported", Proposer shall provide comments demonstrating how they will meet/support the requirement. For responses, indicating, "Not Supported", comments are optional.

1.3.1 Features Specifications

	Supported	Not Supported	Comments
1. Platform solution			
a. Vendor Hosted Solution	Yes		
i. Describe the location of repository			3 version of your documents/content backed up at 2 geo locations
ii. Technical Specifications: Provide details here or attach a document from review.			Please see attached white paper
b. On Premise Solution			
i. Describe possible location of the repository	Yes		Located in existing ISD or District infrastructure or in a hosted data center
ii. Technical Specifications: Provide details here or attach a document from review.			Please see attached technical specification document
c. End User Technical Specifications: Provide details here or attach a document from review.			Please see attached technical specification document
i. Scanner hardware compatibility	Yes		DocuWare is agnostic on scanner hardware provided the scanner is TWAIN compliant
ii. Support for network attached multi-function copiers	Yes		DocuWare is agnostic on Multi-functional copier hardware as long as they can scan to a network folder visible to DocuWare
d. Flexible Architecture for folders and files	Yes		Metadata and folders can be configured to meet each client's requirements
e. Multi-tenant capable - allowing one entity to manage multiple instances belonging to affiliated organizations	Yes		RESA/ISDs could host a cloud or on-premises deployment that could be leveraged by multiple school districts

	Supported	Not Supported	Comments
2. Secure - Access Control & Monitoring - The following specifications seek to understand how the system provides login, data controls, audit logs and secure access to data.			
a. User Security	Yes		
i. Capable of Multi-Factor Authentication (MFA) or SSO	Yes		Standard functionality
ii. Log every action	Yes		Standard functionality
iii. Support of flexible security (granular, by page, permissions)	Yes		Standard functionality
iv. Role / Permission User security "Granular rights Management"	Yes		Standard functionality
b. Backup option for local storage to be offline, off net	Yes		Standard functionality
c. Backup option for cloud services	Yes		Backup is automatic amongst redundant cloud sites. Users (if allowed) and admin can extract subsets or full collections of content/documents
d. Password policy options, if SSO not enabled	Yes		DocuWare allows configuration of specific password policies within admin control panel
e. Encryption options	Yes		All content is encrypted in place for cloud deployment and is automatic with enterprise on-premises deployments
f. Describe systems independent testing of security vulnerabilities. Please provide by which company/organization.	Yes		Please see attached security white paper. SOC 2 Type 2 security certificate can be provided upon completion of NDA

	Supported	Not Supported	Comments
3. Secure - Data Lifecycle Management - The following specifications seek to understand the system supports current storage, retention and destruction standards.			
a. Meets State of Michigan Record retention requirements (i.e. Flagging retention duration and compliance for destruction)	Yes		Can be configured by Applied Innovation within the application to meet retention requirement per document population and/or organization
b. Ability to freeze all documents for Legal hold	Yes		Can configured 'legal hold' metadata field that can be locked based upon user rights
c. Ability to archive historical documents as "inactive"	Yes		Can configure an 'archive' or 'inactive' status field in the metadata to accomplish this document lifecycle status

	Supported	Not Supported	Comments
d. Describe standards of encryption supported in databases, systems, or applications.	Yes		Please see attached technical white paper

	Supported	Not Supported	Comments
4. Secure - Data Ownership - The following specifications seek to understand data protection, privacy and ownership rights.			
a. Data is stored in compliance with CJIS standards		Yes	We have not evaluated the CJIS standards, though it is likely we can comply
b. Data is stored in compliance with HIPAA standards	Yes		
c. Supports compliance with State and Federal Privacy Laws including but not limited to HIPPA, FERPA and Children's Online Privacy Protection Rule ("COPPA"), by ensuring only district authorized persons have access to Personally Identifiable Information (PII).	Yes		DocuWare complies with HIPPA, FERPA and various other compliancy laws
d. Describe Personal Identifiable Information (PII) collected for people including teachers, staff, students, others.	Yes		This depends on the metadata built into the system to identify and find content and documents in the system, which is fully configurable. User creation requires First Name, Last Name and email address.
e. Describe student data collected and the purpose.			Please see above
f. Do you share student or staff data with any third party? If so, why?		Yes	DocuWare and Applied Innovation do not share client's ECM/Document Management information with 3rd party organizations. Documents are only visible to authenticated users and are encrypted in place
g. Have you taken the Student Privacy Pledge (SPP)?		Yes	This has not been required by any other k-12 institution, but we will review and formalize our pledge if needed
h. Data must be property of District and Export provided upon request with indexing	Yes		
i. Do you have a hold harmless agreement (HHA) that you can provide in this response? Please include.	Yes		This is included in section 3.3 of the cloud services agreement

		Supported	Not Supported	Comments
j.	Do you notify your customers of changes in any of the above sections of Data Governance? If so, what is your method of notifications?	Yes		Yes, email communication to listed system admins
k.	How is student data stored, where (location) and how is it protected?	Yes		Cloud data stored in the Microsoft Azure network with 3 redundant versions across two geo locations. All data encrypted automatically in the cloud. On premise storage would depend on organizational design.
l.	Explain the backup process: Are the backups encrypted in transit, who has access to backups, and if we discontinue business with your company, are backups of our data purged?	Yes		Backups can be coordinate through our professional services team. Our clients can also export full collections of documents or sub-sets of document populations at their own leisure.

		Supported	Not Supported	Comments
5.	**Usable - Data Capture Controls -** The following specifications seek to understand how the system efficiently enforces quality data capture.			
a.	Searchable	Yes		Through design, cabinets are developed with specific keywords or index values to construct the most efficient search criteria for each user group. These criteria are completely customizable.
b.	Describe system ability to edit/clean scanned documents	Yes		The OCR reading program includes algorithms and various preset values for image clean up. A user can dynamically rotate and edit index values as needed.
c.	Describe system ability to auto-file scanned documents	Yes		There are several advance capture tools available, ranging from intelligent indexing which dynamically extracts keywords from documents to point and click indexing.
d.	Describe system ability to add comments/notes to documents	Yes		Annotation features allow for 'sticking notes' on documents as well as being able to have free text index values via a designed workflow
e.	Describe document level indexing and file/folder level indexing	Yes		Please see response to 5.a.

	Supported	Not Supported	Comments
6. Usable - Localized Data - The following specifications seek to understand how the system allows for the flexible or localized data elements.			
a. File and document tagging	Yes		Unlimited metadata fields can be utilized to support to personalization of document tagging
b. Describe ability to search and export documents with a shared tag or PII element	Yes		Compound searches can be performed to compile documents with common metadata. Those results can be exported as single documents or as a collection.

	Supported	Not Supported	Comments
7. Usable - Reporting / Redaction - The following specifications seek to understand how the system supports sharing of summary and detailed data.			
a. Easily view logs of every action including:			
i. When a document was scanned or imported into the system (and by whom).	Yes		Standard functionality
ii. When and how a document was indexed, and/or reindexed (and by whom).	Yes		Standard functionality
iii. If and when a document was moved from one data collection to another (and by whom).	Yes		Standard functionality
iv. If and when a copy was printed or uploaded (and by whom).	Yes		Standard functionality
v. Is there an ability to limit printing of documents and/or watermarks for secured document?	Yes		The system can limit who can print by role or user, but does not utilize watermarks
vi. Location / workstation the action was performed.		Yes	
vii. If and when a document was viewed/accessed (and by whom).	Yes		Standard functionality
viii. What searches were executed (and by whom), whether or whether not any documents were returned.		Yes	
b. Customized Reports: Audits, compliance view of data/transactions	Yes		Standard functionality

		Supported	Not Supported	Comments
8.	**Usable - Data Integration -** The following specifications seek to understand how the system supports data integrations and exports.			
c.	Access integration with existing Student Information Systems and Financial systems (i.e. use a piece of information from SIS to pull up folder or reference in document repository – Student ID)	Yes		Often, we use hot key 'integration-lite' activities to image enable SIS, HRIS, ERP and other legacy systems. Integrations are typical managed on a case-by-case basis, but DocuWare has a rich set of integration capabilities. Please see attached white paper
d.	Application integration Student Information System (MISTAR-Q, Skyward, Illuminate, Powerschool, Edulink)	Yes		Please see above, response 8c
e.	Application integration ERP (SMART, Frontline, Red Rover)	Yes		Please see above, response 8c
f.	Application integration Other (Service Desk/Project Mangement - Jira, Slack, MS Teams)	Yes		Please see above, response 8c
g.	Michigan Data Hub	Yes		Please see above, response 8c
h.	Integration customization / creation process	Yes		Please see above, response 8c

		Supported	Not Supported	Comments
9.	**Usable - Data Relationship Mapping** - The following specifications seek to understand any data object-relationship map available that supports conducting a data inventory.			
a.	Describe documentation available to organize, catalog, and index documents and meta data	Yes		DocuWare has a user and admin accessible help site which offers comprehensive documentation on the configuration and support of the DocuWare Platform. https://support.docuware.com/en-US/ Configuration and training for users and admin is typically included in the project plan for each District/ISD

	Supported	Not Supported	Comments
10. Trustworthy - Supporting Business Rules - The following specifications seek to understand how the system support district's documented business rules, workflow and processes.			
a. Describe ability to support workflow integrations	Yes		DocuWare has a native workflow designer which Applied Innovation leverages to build customized workflows for each client. Clients, if they wish can leverage this tool to design and build workflows that integrate with other platforms.
b. Describe ability to customized business rules for workflows	Yes		The above-mentioned workflow tool has the ability to move content through a structured, repeatable process based on various index values and user roles.

	Supported	Not Supported	Comments
11. Trustworthy - Data Repair - The following specifications seek to understand how the system allows correcting data with auditing/documentation/proof.			
a. Describe ability to repair/correct data and capture appropriate auding documentation	Yes		Single documents or collections can be updated or edited to correct incorrect values across index fields. Each action performed on individual documents or collections are tracked and auditable.
b. Ability to review and correct bulk updates and imports.	Yes		Yes, please see above

	Supported	Not Supported	Comments
12. Trustworthy - Data Restoration - The following specifications seek to understand how the system allows for restoration of incorrectly or improperly changed data.			
a. In the event of a data security breach, how quickly will you notify us- and what steps will you take?	Yes		In accordance with SOC 2 certification requirements, DocuWare will contact you as soon as possible
b. Retention Schedule tagging	Yes		Retention schedules are based and designed on document type, date and possibly other metadata

	Supported	Not Supported	Comments
13. Optional Services:			
a. Describe available Scanning Services for digitizing paper document stores.	Yes		Applied Innovation has a Backfile team that specifically digitizes archive collections of documents. The Backfile team can review and quote small to large collections of documents for conversion.
b. Describe available and included Training Services	Yes		Personalized training services are available to each client and customized to their needs and expectations.
c. Describe available and included Workflow creation services initially and ongoing.	Yes		Through the design collaboration process with our clients, we identify the initial and ongoing professional services needed to customize workflow and other needs. The initial efforts are included in primary proposal and ongoing services are handled via a change order process.
d. Describe available Secure form creation tools and process	Yes		Please see above
e. Describe available and included Data migration services	Yes		Please see above
f. Describe support for capture and management of Digital Signatures	Yes		There are inherent Digital Signature capabilities within DocuWare as well as support for integrations with other leading Digital Signature platforms.

1.3.2 Statewide Cooperative Contract

Wayne Resa is working with the Michigan Association of Counties CoPro+ program on this bid solicitation. If your bid meets the minimum qualifications, is responsive and responsible and offers competitive pricing you may be considered and approached to extend a term agreement and pricing to other public entities within the county, the region, and the state, in accordance with Michigan Compiled Laws 124.504. This process is called "piggybacking"; it offers tremendous value to public ordering entities regarding the cost and time to manage an end-to-end purchasing event. This process also offers exceptional value to selected vendors in terms of their company's resources and time to respond to multiple solicitations from various public entities who have a similar need for their products or services.

All pricing submitted to Wayne RESA and its participating entities shall include a 2% administrative fee to be remitted to CoPro+ by the contractor on a quarterly basis. Administrative fees will be paid against actual sales volume for each quarter. It is the contractor's responsibility to keep all pricing up to date and on file with Wayne RESA/CoPro+. All price changes shall be presented to Wayne RESA/CoPro+ for acceptance, using the same format as was accepted in the original contract.

Proposer Response:

Please confirm your understanding by checking Yes or No.

☒ Yes	☐ No

1.3.3 Solution Questions

The Proposer shall provide a summary that should describe the following:

   a) **Key differentiators in service offerings, account management, and value-added services proposed by your company**
   b) **Your understanding of the scope of requirements and the level to which your proposal has met the requirements**
   c) **Your approach to meeting the requirements and a description of any services you are proposing to provide as part of your proposal.**

Proposer Response:

Please see the executive summary and solutions overview in the attached proposal.

1.3.4 Comprehensive List of Assumptions Rather than have assumptions be scattered throughout the proposal, Wayne RESA requires that all assumptions be listed and explained in this section. Please ensure that all assumptions listed reference the appropriate section of the RFP and/or associated services.

Assumptions are typically generated on a case-by-case basis and tend to be minimal, mostly pertaining to access to district/ISD resources and personnel.

OCR processing of documents is extremely accurate, but should not be considered 100% accurate.

1.4 Production Specifications

1.4.1 Reservation of Rights

All products being bid shall be certified as new and unused. Please bid the product lines of nationally recognized manufacturers. However, the Wayne RESA will evaluate the merits of all bids submitted and reserves the right, in its sole and absolute discretion, to accept or reject, in whole or in part, any or all bids or portions of bids with or without cause. Wayne RESA further reserves the right to waive any irregularity or informality in the RFP process or any bid, and the right to award to one or multiple vendors. Wayne RESA reserves the right to add or delete products from the bid, extend agreements, or change vendors, in order to best serve the eligible agencies. These changes will follow approved bidding laws. Wayne RESA may use the individual product cost, or the sum of groups of products, may group similar products, and/or total cost of ownership, to evaluate prices and award bids. Wayne RESA reserves the right to request additional information from any or all Proposers. Wayne RESA also reserves the right to select one or more vendors to award a contract to under this RFP. In the event a bid is accepted by Wayne RESA and the vendor asserts exceptions, special considerations or conditions after acceptance, Wayne RESA, in its sole and absolute discretion, reserves the right to reject the bid and award other Proposer(s).

1.4.2 Competition Promoted

The name of a model, manufacturer or brand in Wayne RESA bid documents shall not be considered as exclusive of other brands unless "NO SUBSTITUTE" is stated in the item description. Proposers may offer a variety of brands and models, as it is the intent of Wayne RESA to provide a multitude of options to the eligible agencies. Wayne RESA expects all supplies, materials, equipment or products bid to meet or exceed the specifications set forth in this RFP. Further, it is Wayne RESA's intent that this RFP permit competition. Accordingly, the use of any patent, proprietary name or manufacturer's name is for demonstrative purposes only and is not intended to curtail competition. Whenever any supplies, materials, equipment or products requested in this RFP are specified by patent, proprietary name or by the name of the manufacturer, unless stated differently, such specification shall be considered as if followed by the words "or comparable equivalent," whether or not such words appear. Wayne RESA, in its sole and absolute discretion, shall have the right to determine if the proposed equivalent products/brands submitted by Proposer meet the specifications contained in this RFP and possess equivalent and/or better qualities. It is the Proposer's responsibility to notify Wayne RESA in writing if any specifications or suggested comparable equivalent products/brands require clarification by Wayne RESA prior to the due date for bids.

Proposer Response:

Please confirm your understanding by checking Yes or No.

☒ Yes   ☐ No

1.5   Product Specifications

All products furnished must be in conformity with the participating agency requirements and specifications and will be subject to inspection and acceptance by the individual customers at delivery. The right is reserved to reject and return at the risk and expense of the vendor.

Proposer Response:

Please confirm your understanding by checking Yes or No.

☒ Yes	☐ No

1.6   Service Capabilities

1.6.1   Communication Plan/Contract Management
Proposers shall identify their company standards of communication as they relate to contract performance, issue management, and change management. An issue is an identified event that, if not addressed, may affect schedule, scope, service, delivery, quality, or budget. A change is identified as a change in corporate leadership, structure, merger or acquisition.

Proposer Response:

Please refer to the "Applied Innovation Content Services" section on page 8 of the attached proposal.

A sample "Implementation Overview" is included on the bottom of page 6 of the attached proposal.

1.6.2   Primary Account Representative
Proposers must identify by name and location the primary account representatives who will be responsible for the performance of a resulting contract, as well as contact persons for reports and bid documents.

Proposer Response:

Michael Hizer
Automation Consultant
248.890.4068 mobile
mhizer@appliedinnovation.com

1.7   Customer Service

It is preferred that the Vendor have an accessible customer service department with an individual specifically assigned to Wayne RESA. Customer inquiries should be responded to with forty-eight (48) hours or two (2) business days unless it is an emergency issue. Describe your company's Customer Service Department (hours of operation, number and location of service centers, regular and emergency response times, etc.).

Proposer Response:

Please refer to the "Post Implementation Solution Support" section on page 8 of the attached proposal, including support hour and phone and email contact options.

Our typical response time on software solutions inquiries by out clients is under 2 hours.

1.8 Purchase Orders

Requests for quotes will be initiated by participating agencies as specific needs arise. Participating agencies will issue individual detailed specifications to the pre-qualified vendor pool along with specific response information required, deliverables, and any special terms and conditions. The vendors will respond directly to the requesting agency within the timeframe specified in the request for quote. The participating agency will evaluate the responses and determine the vendor that will be awarded a purchase order (PO). Resulting orders are to be shipped and billed directly to these institutions.

Proposer Response:

Please confirm your understanding by checking Yes or No.

☒ Yes ☐ No

1.9 Delivery and Acceptance

Proposer should address the following items and costs in their proposal and other items/costs that they are aware of that may not have been requested in this bid.

- All pricing must reflect net 30 payment terms.
- Ordering/customer service capabilities and procedures.
- Policies and procedures for an organization accepting product/service.

Proposer Response:

Please see attached proposal for cost structure and general terms.

We will honor net 30 on any configuration developed for Wayne RESA or a participating organization.

Proposer Response:

Please confirm your understanding by checking Yes or No.

☒ Yes ☐ No

1.10 Management and Staff

Proposer should address the following items in their proposal.

- Project Management of the contract.
- Staffing and responsibilities.
- Process and procedures to keep safe and secure facilities when delivering products/services.
- Background checks process, depending on the facility ordering the product/services a more restrictive background check may be required.

Proposer Response:

Please see the sample "Implementation Overview" on page 6 of the attached proposal for typical steps and responsibilities during a solution deployment. This is all managed by our internal Project Manager in conjunction with our clients Project Manager or project point person.

Background checks are performed during onboarding of Applied Innovation personnel, and we will comply with a district/ISD background check request

1.11   Pricing Schedule

Respondents will provide pricing information on the price sheet (**Attachment A**) that will be utilized when evaluating price competitiveness.

1.11.1   RESERVED

1.11.2   Bid Pricing

Proposers have the option to provide high-volume pricing. Proposers who offer high-volume pricing may be evaluated more favorably than those who do not. Proposers should specify this discount option within their cost proposal and at what level.

1.11.3   Quantity Term

Vendor agrees to supply the complete quantity and products that each customer requires.

1.11.4   Rebates and Special Promotional Capabilities

All vendors are encouraged to make manufacturer promotions, rebates and special pricing opportunities available. Wayne RESA must approve promotional materials referring to the Wayne RESA/CoPro+ Agreement prior to release. Wayne RESA/CoPro+ will post rebate and special pricing information on its web site.

Guidelines for Vendor /Contractor promotions for Wayne RESA/CoPro+ awarded items:
A.   Submit all promotions for approval
B.   Identify the savings amount
C.   Identify the final price
D.   Specify the time period in which a purchase must be made
E.   Identify the link to a rebate form (preferred) or provide the form

1.11.5   Tax Excluded from Price

(a) Sales Tax: Wayne RESA and local units of government are exempt from sales tax for direct purchases. The Proposer's prices must not include sales tax.

(b) Federal Excise Tax: Wayne RESA may be exempt from Federal Excise Tax, or the taxes may be reimbursable, if articles purchased under any resulting Contract are used for Wayne RESA's exclusive use. Certificates showing exclusive use for the purposes of substantiating a tax-free, or tax-reimbursable sale will be sent upon request. If a sale is tax exempt or tax reimbursable under the Internal Revenue Code, the Proposer's prices must not include the Federal Excise Tax.

Proposer Response:
Include any comments regarding pricing, discounts being offered, and information on other cooperative contracts held by respondent.

Pricing is based on the size and scope of this RFP. Simplified pricing is our goal, so the published pricing in the attached proposal reflects all discounts available.

1.12   Price Assurance

The awarded vendor agrees to provide pricing to Wayne RESA and its participating entities that are the lowest pricing available and the pricing shall remain so throughout the duration of the contract. The awarded vendor agrees to promptly lower the cost of any product purchased through WAYNE RESA following a reduction in the manufacturer or publisher's direct cost. If respondent has existing cooperative contracts in place, Wayne RESA requests equal or better than pricing to be submitted.

All pricing submitted to Wayne RESA shall include 2% administrative/remittance fee to be remitted to CoPro+ by the awarded vendor. It is the awarded vendor's responsibility to keep all product listings up to date and on file with Wayne RESA/CoPro+.

Proposer Response:

Please confirm your understanding by checking Yes or No.

☒   Yes   ☐   No

If "NO" was answered on any items in Section 1.3, 1.4, 1.5, 1.8, 1.9 and 1.12, please explain:

SECTION 2.0 – PROPOSER INFORMATION AND ACCEPTANCE

1. The undersigned declares that the bid documents, including, without limitation, any RFP Addenda and Exhibits have been read.

   The undersigned is authorized, offers, and agrees to furnish the articles and/or services specified in accordance with the Specifications, Terms & Conditions of the bid documents of this RFP.

2. The undersigned has reviewed the bid documents and fully understands the requirements in this bid and that each proposer who is awarded a contract shall be, in fact, a prime contractor, not a subcontractor, and agrees that its bid, if accepted by Wayne RESA, will be the basis for the Proposer to enter into a contract with Wayne RESA in accordance with the intent of the bid documents.

3. The undersigned acknowledges receipt and acceptance of all addenda.

4. The undersigned agrees to the following terms, conditions, certifications, and requirements listed in Section 2.3:

   - Contractor's Employment Eligibility
   - Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion
   - Certification Regarding Nondiscrimination Under Federally and State Assisted Programs
   - Assurance Regarding Access to Records and Financial Statements
   - Iran Economic Sanctions Act
   - Certificate of Independent Price Determination
   - Clean Air and Water Certificate
   - Certifications/Disclosure Requirements Related to Lobbying
   - U.S. Department of Energy Assurance of Compliance Non-Discrimination in Federally Assisted Programs

5. The undersigned acknowledges that proposer will be in good standing in the State of Michigan, with all the necessary licenses, permits, certifications, approvals, and authorizations necessary to perform all obligations in connection with this RFP and associated bid documents.

6. It is the responsibility of each proposer to be familiar with all of the specifications, terms and conditions and, if applicable, the site condition. By the submission of a bid, the proposer certifies that if awarded a contract they will make no claim against Wayne RESA based upon ignorance of conditions or misunderstanding of the specifications.

7. Patent indemnity: Vendors who do business with the Wayne RESA shall hold Wayne RESA, its officers, agents and employees, harmless from liability of a nature or kind, including cost and expenses, for infringement or use of any patent, copyright or other proprietary right, secret process, patented or unpatented invention, article or appliance furnished or used in connection with the contract or purchase order.

8. Insurance certificates are not required at the time of submission. However, if awarded, the Contractor agrees to meet the minimum insurance requirements posted in the terms and conditions. This documentation must be provided to Wayne RESA, prior to award, and shall include an insurance certificate and additional insured certificate, naming Wayne RESA, which meets the minimum insurance requirements, as stated in the terms and conditions.

2.1 Company Profile

Official Name of Proposer: Applied Innovation
Street Address: 24050 Northwestern Hwy
City: Southfield
State: MI Zip Code: 48075
Website: https://www.appliedinnovation.com/
Primary Contact Name: Mike Hizer
Primary Contact Phone Number 248-890-4068
Primary Contact Email Address: mhizer@appliedinnovation.com
Dun & Bradstreet (D&B) Number (if applicable): 151935590
Has your company been debarred by the Federal and/or State Government? ☐ Yes   ☒ No *If yes, has it been lifted and if so, when?*
Have you ever been in bankruptcy or in reorganization proceedings? No
Brief history of your company, including the year it was established: Please see page 2 of our attached proposal.
Signature:
Name and Title of Signer: Mike Hizer, Automation Consultant
Date: 1-27-2023

2.2   References

Provide a minimum of three (3) customer references for product and/or services of similar scope dating within the past 5 years.   Please identify any experience relevant to the services you propose to provide through this RFP within the Description of Services:

Entity Name: School District of the City of Pontiac	
Contact Name: James Graham	Title: Director of Business Services
City: Pontiac	State: MI
Phone Number: 248-451-6836	Years Serviced: 2 years specific to focus of this bid.
Description of Services: Developed and deployed a document management strategy and system across several departments, including eforms automation of several internal processes in HR and payroll	
Annual Volume: Not applicable	

Entity Name: Kalamazoo Regional Educational Service Agency	
Contact Name: Tim Peasel	Title: Manager, Help Desk
City: Portage	State: MI
Phone Number: 269-250-9283	Years Serviced: 12 years+
Description of Services: We provide document management consulting and system deployment for student records across all KRESA districts along with other business office processes.	
Annual Volume: Not applicable	

Entity Name: Riverview Community School District	
Contact Name: Sarah Wilson	Title: Technology Coordinator
City: Riverview	State: MI
Phone Number: 734-285-3963	Years Serviced: 2 years +
Description of Services: Document management system deployed to manage archived student records. Migrated digital images from legacy competitive system that reached end of life.	

2.3 Assurances and Certifications

CONTRACTOR'S EMPLOYMENT ELIGIBILITY

By entering the contract, Contractor warrants compliance with ARS subsection 41-4401, ARS subsection 23-214, the Federal Immigration and Nationality Act (FINA), and all other federal immigration laws and regulations. The Contractor further warrants that it is in compliance with the various state statutes of the states it will operate this contract in.

Participating Government Entities including School Districts may request verification of compliance from any Contractor or subcontractor performing work under this Contract. These Entities reserve the right to confirm compliance in accordance with applicable laws. Should the Participating Entities suspect or find that the Contractor or any of its subcontractors are not in compliance, they may pursue any and all remedies allowed by law, including, but not limited to: suspension of work, termination of the Contract for default, and suspension and/or debarment of the Contractor. All costs necessary to verify compliance are the responsibility of the Contractor.

The vendor complies and maintains compliance with FINA, ARS 41-4401 and 23-214 which requires compliance with federal immigration laws by State employers, State contractors and State subcontractors in accordance with the E-Verify Employee Eligibility Verification Program.

Contractor shall comply with governing board policy of the WAYNE RESA Participating entities in which work is being performed.

Kirk Morgan
_____
Printed Name of Respondent

_____
Signature of Respondent (*BLUE* ink preferred)

Applied Innovation
_____
Company Name

4/18/23
_____
Date of Signature

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

The prospective contractor certifies, by submission of this proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded for from participating in this transaction by any Federal department of agency. Where the prospective contractor is unable to certify to any of the statements in this certification, such prospective contractor shall attach an explanation to this proposal.

Certification Regarding Nondiscrimination Under Federally and State Assisted Programs

The applicant herby agrees that it will comply with all federal and Michigan laws and regulations prohibiting discrimination and, in accordance therewith, no person, on the basis of race, color, religion, national origin or ancestry, age, sex, marital status or handicap, shall be discriminated against, excluded from participation in, denied the benefits of, or otherwise be subjected to discrimination in any program or activity for which it is responsible or for which it receives financial assistance from the U.S. Department of Education or the MDE.

Assurance Regarding Access to Records and Financial Statements

The applicant hereby assures that it will provide the pass-through entity, i.e., the Wayne County Regional Educational Service Agency, and auditors with access to the records and financial statements as necessary for the pass-through entity to comply with 2 CFR, Part 200, Subpart F and Compliance Supplement for the U.S. Department of Education.

Iran Economic Sanctions Act

The prospective contractor certifies that its organization, by submission of this proposal, is not an Iran Linked Business. Please refer to the "Iran Economic Sanction Act" Public Act 517 for clarifications or questions. Wayne RESA as a Michigan public entity is required to follow Public Act 517 of 2012.

Vendor Signature:	*[signature]*
Date:	1/18/23

Notary	
State of	Michigan
County of	Kent
Sworn to and subscribed before me, a notary public in and for the above state and county, on this 18th day of January , 20 23 .	
Notary Public	*[signature]*
My commission expires: March 16th, 2028	

[Notary Seal: Kevin Burton, NOTARY PUBLIC County of Kent, My Commission Expires March 16th, 2028, Acting in the County of Kent, STATE OF MICHIGAN]

CERTIFICATE OF INDEPENDENT PRICE DETERMINATION

(A) By submission of this offer, the offeror certifies each party thereto certifies as to its own organization, that in connection with this procurement:

    (1) The prices in this offer have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting completion, as to any matter relating to such prices with any other offeror or with any competitor;

    (2) Unless otherwise required by law, the prices which have been quoted in this offer have not been knowingly disclosed by the offeror and will not knowingly be disclosed by the offeror prior to bid opening in the case of an advertised procurement or prior to award in the case of a negotiated procurement, directly or indirectly to any other offeror or to any competitor; and

    (3) No attempt has been made or will be made by the offeror to induce any person or firm to submit or not to submit, an offer for the purpose of restricting competition.

(B) Each person signing this offer on behalf of the manufacturer or processor certifies that:

    (1) He or she is the person in the offeror's organization responsible within the organization for the decision as to the prices being offered herein and has not participated, and will not participate, in any action contrary to (A)(1) through (A)(3) above; or

    (2) He or she is not the person in other offeror's organization responsible within the organization for the decision as to the prices being offered herein, but that he or she has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated and will not participate, in any action contrary to (A)(1) through (A)(3) above, and as their agent does hereby so certify; and he or she has not participated, and will not participate, in any action contrary to (A)(1) through (A)(3) above.

To the best of my knowledge, this manufacturer or processor, its affiliates, subsidiaries, officers, directors, and employees are not currently under investigation by any governmental agency and have not in the last three years been convicted or found liable for any act prohibited by State or Federal law in any jurisdiction, involving conspiracy or collusion with respect to bidding on any public contract, except as follows:

John Kenyator H /VP Sales
Company's Authorized Representative / Position Title

[signature]
Signature of Company Representation
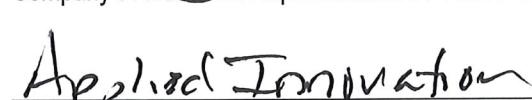
Applied Innovation
Company Name

_1/18/23_
Date of Signature

CERTIFICATIONS/DISCLOSURE REQUIREMENTS RELATED TO LOBBYING

Section 319 of Public Law 101-121 (31 U.S.C.), signed into law on October 23, 1989, and imposes new prohibitions and requirements for disclosure and certification related to lobbying on recipients of Federal contracts, grants, cooperative agreements, and loans. Certain provisions of the law also apply to Federal commitments for loan guarantees and insurance; however, it provides exemptions for Indian tribes and tribal organizations.

Effective December 23, 1989, current and prospective recipients (and their subtier contractors and/or subgrantees) will be prohibited from using Federal funds, other than profits from a Federal contract, for lobbying Congress and any Federal agency in connection with the award of a particular contract, grant, cooperative agreement, or loan. In addition, for each award action in excess of $100,000 (or $150,000 for loans) on or after December 23, 1989, the law requires recipients and their subtier contractors and/or subgrantees to: (1) certify that they have neither used nor will use any appropriated funds for payment to lobbyists; (2) disclose the name, address, payment details, and purpose of any agreements with lobbyists whom recipients or their subtier contractors or subgrantees will pay with profits or nonappropriated funds on or after December 23, 1989; and (3) file quarterly updates about the use of lobbyists if material changes occur in their use. The law establishes civil penalties for noncompliance. If you are a current recipient of funding or have an application, proposal, or bid pending as of December 23, 1989, the law will have the following immediate consequences for you:

You are prohibited from using appropriated funds (other than profits from Federal contracts) on or after December 23, 1989, for lobbying Congress and any Federal agency in connection with a particular contract, grant, cooperative agreement or loan; You are required to execute the attached certification at the time of submission of an application or before any action in excess of $100,000 is awarded; and You will be required to complete the lobbying disclosure form if the disclosure requirements apply to you.

Regulations implementing Section 319 of Public Law 101-121 have been published an Interim Final Rule by the Office of Management and Budget as Part III of the February 26, 1990, Federal Register (pages 6736-6746).

CERTIFICATION REGARDING LOBBYING CONTRACTS, GRANTS, LOANS, AND COOPERATIVE AGREEMENTS

The undersigned certifies, to the best of his or her knowledge and belief, that:

No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of a Federal contract, the making of any Federal grant, the making of a Federal loan, the entering into a cooperative agreement, and the extension, continuation, renewal, amendment, or modification of a Federal contract, grant, loan, or cooperative agreement;

If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions;

The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Kirk Morgan Corporate Counsel
Company's Authorized Representative / Position Title

Signature
Signature of Company Representation

Applied Innovation
Company Name

_1/18/23_
Date of Signature

SECTION 3.0 – BIDDING, EVALUATION, SELECTION & AWARD PROCESS

This section contains a description of activities as well as instructions to proposers on how to prepare and submit their proposal:

3.1   Wayne RESA Responsibility

Wayne RESA. is not responsible for representations made by any of its officers or employees prior to the execution of the Master Agreement unless such understanding or representation is included in the Master Agreement.

3.2   Truth and Accuracy of Representations

False, misleading, incomplete, or deceptively unresponsive statements in connection with a proposal shall be sufficient cause for rejection of the proposal. The evaluation and determination in this area shall be at Wayne RESA Administrator/Purchasing agent designee's sole judgment and his/her judgment shall be final.

3.3   Proposers Questions

Proposers may submit written questions regarding this RFP by e-mail to the address identified below. All questions must be received by no later than the date identified on the cover page of this RFP. All questions, without identifying the submitting company, will be compiled with the appropriate answers and issued as an addendum to the RFP.

When submitting questions please specify the RFP section and paragraph number, and quote the language that prompted the question. This will ensure that the question can be quickly found in the RFP. Wayne RESA reserves the right to group similar questions when providing answers. Questions should be addressed to:

E-mail address: purchasing@resa.net

Wayne RESA may modify the RFP at any time during the bid process. All changes to the RFP will be posted under the bid number and each posting officially revises the RFP.

3.4   Preparation of the Proposal

Each Proposer must submit a complete proposal in response to this RFP. The proposal must remain valid for at least 120 days from the due date for responses to this RFP.

The Proposer will be responsible for completing and submitting the following sections of this RFP:

Section 1.0 – Bid Responses to Scope of Work and Pricing - The Proposer's proposal must include detailed responses to each of the outlined requirements in the text boxes provided. There is no requirement or limitation on the amount of words for proposer's responses.

Section 2.0 – Proposer Information and Acceptance – The Proposer will be required to complete the information in this section and provide required signatures and notarization.

Attachment A – Pricing Schedule – The Proposer will be required to complete the tables that make up the pricing schedule.

3.5   Bid Submission Deadline

See Cover Page for the Bid Submission Deadline (the "Due Date").

A. Submit an electronic version of your Bid to Wayne RESA via email to purchasing@resa.net not later than the **Due Date** identified on the cover page**.** Wayne RESA has no obligation to consider any proposal that is not timely received. Note: Timely delivery is regarded as to the time and date that the e-mail arrives within Wayne RESA not when the e-mail was sent. Proposals will not be accepted via U.S. mail or any other delivery method.

B. APPLICANTS ARE RESPONSIBLE FOR ASSURING THAT THE FOLLOWING IDENTIFYING INFORMATION APPEARS IN THE SUBJECT LINE OF YOUR EMAIL: *"RFP-WRESA-12222022-264-01" with Company Name, and "message 1 of 3" as appropriate if the proposal consists of multiple emails. Note: All e-mails from a Proposer must be received by Wayne RESA by the stated time and date in order for the proposals to be deemed submitted on time.*

3.6   Adherence to Mandatory Requirements (Pass/Fail)

Wayne RESA Administrator or designee shall review Section 2.0 Proposer Information and determine if the Proposer meets the minimum requirements as outlined in this RFP.

Failure of the proposer to comply with the minimum mandatory requirements may eliminate its proposal from any further consideration. Wayne RESA may elect to waive any informality in a proposal if the sum and substance of the proposal is present.

3.7   Evaluations Process

All Bids will be reviewed for compliance with the mandatory requirements stated within this RFP. Bids not meeting the mandatory requirements will be deemed non-responsive and eliminated from further consideration. Wayne RESA may elect to waive any informality in a proposal if the sum and substance of the proposal is present.

A. Wayne RESA may contact the Proposer for clarification of the Proposer's Bid.
B. Wayne RESA may use other sources of information to perform the evaluation.
C. Wayne RESA. may require the Proposer to submit additional and/or supporting materials.

Responsive bids will be evaluated on the factors identified in this RFP. The Proposer(s) whose bid is advantageous to the Eligible Agencies, taking into consideration the evaluation factors, will be recommended for award approval.

After a prospective supplier has been selected, Wayne RESA and the prospective supplier(s) will negotiate a Master Agreement. If a satisfactory Master Agreement cannot be negotiated, Wayne RESA may, at its sole discretion, begin negotiations with the next qualified proposer who submitted a proposal

3.8   Evaluation Criteria

	Technical Evaluation Criteria	Points
1.	**Solution** – Including but not limited to the following: adherence to specifications, delivery, maintenance of products and/or services,warranties.	50
2	**Prior Experience and Past Performance** – Including but not limited to the following: past performance to the district, vendor reliability and familiarity with the scope of work and the facilities of the district.	35
3	**Staffing** – Including but not limited to the following: qualifications and experience of the proposed staffing.	15
	Total Points Possible	**100**

Award shall be made to the most responsible Supplier whose proposal is determined to be best value to Wayne RESA taking into consideration the terms and conditions set forth in this RFP. A valid and enforceable contract exists when an agreement is fully executed between Wayne RESA and the Supplier.

In determining the best value, Wayne RESA will review and consider the technical evaluation criteria and pricing. Proposals receiving **80** or more technical evaluation points (see table below) will have pricing evaluated and considered for award.

3.9 Optional Tools to Enhance Evaluation Process

Wayne RESA during the evaluation of proposals may find it necessary to utilize one or multiple tools, as listed below, to facilitate their understanding of the proposal(s) in order to select the best offering to Wayne RESA.

- Clarifications
- Deficiency Report
- Oral Presentation
- Site Visit
- Best and Final Offer (BAFO)
- Negotiations

3.10 Wayne RESA Option to Reject Proposals

Wayne RESA may, in its sole and absolute discretion, reject any or all proposals submitted in response to this RFP. Wayne RESA shall not be liable for any costs incurred by the Proposer in connection with the preparation and submission of any proposal. Wayne RESA reserves the right to waive inconsequential disparities in a submitted proposal.

3.11 Freedom of Information Act

This contract and all information submitted to Wayne RESA by the Contractor and Proposers is subject to the Michigan Freedom of Information Act (FOIA), 1976 PA 442, MCL 15.231, et seq.

Wayne RESA shall not, in any way, be liable or responsible for the disclosure of any such record or any parts thereof, if disclosure is required or permitted under the Michigan Freedom of Information Act or otherwise by

law. The Proposer(s) must specifically label only those provisions of the proposal, which are actually trade secrets, confidential, or proprietary in nature. A blanket statement of confidentiality or the marking of each page of the proposal as "Trade Secret", "Confidential", or "Proprietary" shall not be permitted. Any such designation will be disregarded.

By submitting a response to this RFP, the Proposer shall be deemed to have agreed to indemnify and hold harmless Wayne RESA for any liability arising from or in connection with Wayne RESA's failure to disclose, in response to a request under the Michigan Freedom of Information Act, any portion or portions of the Proposer's response to this RFP which have been marked "Trade Secret," "Confidential," or "Proprietary."

3.12   Contacts with Wayne RESA Personnel

All contact with Wayne RESA regarding this RFP or any other matter relating thereto must be emailed as follows:

Email address: purchasing@resa.net

If it is discovered that a Proposer contacted and received information regarding this solicitation from any Wayne RESA personnel other than the Procurement Contact, Wayne RESA, in its sole discretion, may disqualify its proposal from further consideration. Only those communications made by Wayne RESA in writing will be binding with respect to this RFP.

3.13   Final Agreement Award Determination

Wayne RESA reserves the right to make one total award, one award for each section, multiple awards, or a combination of awards, and to exercise its judgment concerning the selection of one or more proposals, the terms of any resultant agreement(s), and the determination of which, if any, proposal(s) best serves the interests of Wayne RESA.

3.14   Cancellation of Invitations for Bids or Requests for Proposals

An IFB, a RFP, or other solicitation may be cancelled, or any or all bids or proposals may be rejected in whole or in part as may be specified in the solicitation, when it is in the best interest of the County in accordance with regulations.

Attachment A – Pricing Schedule

Wayne RESA reserves the right to award multiple contracts as a result of this RFP.

Please note, quantities may be scaled down to fit available budget over the course of this Contract. The quantities provided in this RFP are the initial anticipated quantities that will be considered during our pricing evaluation. Wayne RESA will calculate the estimated cost over the initial term when evaluating pricing. Proposer may add additional rows to table(s) below as needed.

Base Bid: Licensing for 1 year

- **Please see attached proposal for monthly and annual cost structure across multiple cloud and on-premises solutions options**

License Costs – Please include all costs for the system for 1 year. Include any tiered pricing information.		
Unit	Unit Cost	Total

Hosting Costs – Please include all costs for the system for 1 year. (OPTIONAL)		
Unit	Unit Cost	Total

Data Transition Costs – Please include all costs for transferring Data from existing Document system platform to new platform (OPTIONAL)		
Unit	Unit Cost	Total

Professional Services or Training Costs (OPTIONAL)		
Unit	Unit Cost	Total

Multi Year Pricing: 3 years (Voluntary Alternate)

License Costs – Please include all costs for the system for 3 years. Include any tiered pricing information.		
Unit	Unit Cost	Total

Hosting Costs – Please include all costs for the system for 3 years. (OPTIONAL)		
Unit	Unit Cost	Total

Solution Pricing – Cloud - 4 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 4 Named User / 20 GB Storage	$296.00 / Month	$3,552.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$3,552.00**
2+	12 Months	DocuWare Cloud Subscription - 4 Named Users / 20 GB Storage	$296.00 / Month	$3,552.00.00

Solution Pricing – Cloud - 15 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 15 Named User / 50 GB Storage	$910.00 / Month	$10,920.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$10,920.00**
2+	12 Months	DocuWare Cloud Subscription - 15 Named Users / 50 GB Storage	$910.00 / Month	$10,920.00

Solution Pricing – Cloud - 40 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 40 Named User / 500 GB Storage	$2,210.00 / Month	$26,520.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$26,520.00**
2+	12 Months	DocuWare Cloud Subscription - 40 Named Users / 500 GB Storage	$2,210.00 / Month	$26,520.00

Solution Pricing – Cloud - 100 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 100 Named User / 1 TB Storage	$4,250.00 / Month	$51,000.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$26,520.00**
2+	12 Months	DocuWare Cloud Subscription - 100 Named Users / 1 TB Storage	$4,250.00 / Month	$51,000.00

Cloud Solution Add-Ons

Quantity	Description	Monthly / Unit	Annual
1	DocuWare Cloud 4 User Bundle Additional User	$86.00	$1,032.00
1	DocuWare Cloud 15 User Bundle Additional User	$65.00	$780.00
1	DocuWare Cloud 40 User Bundle Additional User	$44.00	$528.00
1	DocuWare Cloud 100 User Bundle Additional User	$27.00	$324
1	DocuWare Cloud Additional Storage – 10 GB	$14.00	$168.00

Solution Pricing – On-premises – Professional Server

Year	Quantity	Description	Unit	M&S	Price
1	12 Months	DocuWare Professional Server	$6,812.00	$1,365.00	$8,177.00
1	12	Named Client License – per user 1-9	$565.00	$142.80	$707.80
1	12	Named Client License – per user 10-19	$546.00	$136.80	$682.80
1	12	Named Client License – per user 20-39	$517.00	$129.00	$646.00
1	12	Named Client License – per user 100-139	$440.00	$109.20	549.20
		Common Optional Modules			
1	12	Auto Index	$3,328.00	$663.00	$3,991.00
1	12	Barcodes & Forms	$5,106.00	$1,011.00	6,117.00
1	12	Task Manager	$5,106.00	$1,011.00	$6,117.00
1	12	eForms	$12,698.00	$2,538.00	$15,236.00
1	12	Import	$2,558.00	$513.00	$3,071.00
1	12	Intelligent Indexing	$12,698.00	$2,538.00	$15,236.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day		
		First Year Total Cost Dependent on Needed Modules and Number of Client Users			

Document Storage Solution
RFP Response

for:

RFP #WRESA-12222022-264-01

Prepared by:
Michael Hizer | Automation Consultant
1/27/2023

Mike Hizer
Applied Innovation
24050 Northwestern Hwy
Southfield, MI 48075
1-27-2023

Steve Motz
Wayne Regional Educational Service Agency
33500 Van Born Road
Wayne, MI 48184

Dear Steve Motz

Thank you for the opportunity to allow Applied Innovation to participate in the RFP process for Document Storage Solutions for Wayne RESA and participating organizations.

As a premier content and document management software integrator in the State of Michigan, we look forward to assisting Wayne RESA and participating organizations with this exciting project and other information workflow efficiency projects. We partner with our clients to help them transition traditional paper-based processes into digital efficiencies. Our extensive experience across K-12 organizations makes us an excellent resource and partner for automating and accelerating the management of student records, HR, financial, and contract management documentation to name a few.

On the following pages, please find information about Applied Innovation, DocuWare, and our Enterprise Content Management expertise. Please let us know if you need any additional information or explanation for the information we have provided.

Sincerely,

Mike Hizer

Automation Consultant

Andrew Reed

Director

Applied Innovation

Founded in 1987, Applied Innovation has achieved growth throughout Michigan by evolving and positioning its people, products, and services, to respond to the needs of today's customers. By helping Michigan businesses be more efficient in how they communicate and manage information flow, Applied Innovation has gained recognition both locally and nationally. Applied Innovation annually receives The Week in Imaging's Elite Dealer Award for being one of the USA's most innovative and customer friendly office technology dealers. Applied Innovation is also excited to announce that it has earned recognition in INC Magazine's list of America's Fastest-Growing Private Companies in America for 2019!

The Chemistry for Success

The culture at Applied Innovation impacts everything we do. It impacts how we behave, what we believe, our purpose & symbols of who we are, and the things are important to us. We call our culture "Applied Chemistry". Just as regular chemistry has elements, so does Applied Chemistry. We have our own unique set of 12 elements called the "Elements of Success".

The 12 Elements of Success are centered around our employees. They focus on things like making decisions that benefit the client, understanding our role in the bigger picture, the importance of giving back to the community, and most importantly, having fun.

Check out all 12 of our Elements of Success:
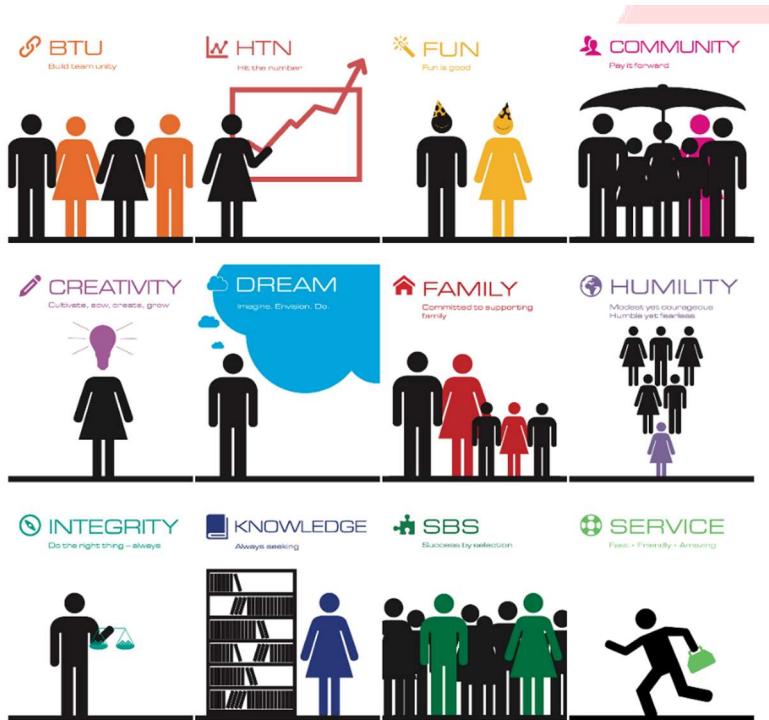
Your Technical Peace of Mind

Certified Solution Architects, Implementers and Project Managers with technical and real-world experience bring a level of professionalism, experience and best practices delivering your enterprise content management solution.

A few of our clients:

Below, please find a few of our clients, utilizing various Applied Innovation Document Storage offerings:

Riverview Community School Districts

12431 Longsdorf Street

Riverview, MI 48193

Sarah Wilson

734-285-3963

Kalamazoo Regional Educational Service Agency

1819 E Milham Avenue

Portage, MI 49002

Tim Peasel

269-250-9283

School District of the City of Pontiac

47200 Woodward Avenue

Pontiac, MI 48342

James Graham

248-451-6836

Trenton Public Schools

2603 Charlton Road

Trenton, MI 48183

Gail Farrell

734-692-4524

Additional references available upon request.

Solution Overview

The following are a list of products and services to be delivered within the scope of this proposal:

DocuWare	**Document Management System:** • DocuWare Cloud or On-premises Document Management Platform • 250 GB Storage Included, and expandable • Full module portfolio available through cloud licensing
APPLIED IMAGING	**Professional Services – Installation & Support:** • Your Applied Innovation Solutions Team brings a high level of professionalism, experience, and best practices to developing, delivering, and supporting your enterprise document and content management solution. • Team members include Solution Architects, ECM Practitioners, Information Governance Practitioners, Software Implementation Experts and Project Managers
Canon imageFORMULA	**Document Scanning and Image Clean-up:** • Canon Dedicated Scanner • Includes Bundled Image Enhancement Software • USB Connected, Optional Network Adapter

Solution Pricing – Cloud - 4 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 4 Named User / 20 GB Storage	$296.00 / Month	$3,552.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$3,552.00**
2+	12 Months	DocuWare Cloud Subscription - 4 Named Users / 20 GB Storage	$296.00 / Month	$3,552.00.00

Solution Pricing – Cloud - 15 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 15 Named User / 50 GB Storage	$910.00 / Month	$10,920.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$10,920.00**
2+	12 Months	DocuWare Cloud Subscription - 15 Named Users / 50 GB Storage	$910.00 / Month	$10,920.00

Solution Pricing – Cloud - 40 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 40 Named User / 500 GB Storage	$2,210.00 / Month	$26,520.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$26,520.00**
2+	12 Months	DocuWare Cloud Subscription - 40 Named Users / 500 GB Storage	$2,210.00 / Month	$26,520.00

S

Solution Pricing – Cloud - 100 Named Users Bundle

Year	Quantity	Description	Monthly / Unit	Annual
1	12 Months	DocuWare Cloud Subscription - 100 Named User / 1 TB Storage	$4,250.00 / Month	$51,000.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day	
		First Year Total Cost *		**$26,520.00**
2+	12 Months	DocuWare Cloud Subscription - 100 Named Users / 1 TB Storage	$4,250.00 / Month	$51,000.00

Please note the above pricing includes estimates for the solution described in the Project Description section of this proposal. Changes or modifications to the scope of the solution may incur additional software and professional services costs. Taxes not included.

Cloud Solution Add-Ons

Quantity	Description	Monthly / Unit	Annual
1	DocuWare Cloud 4 User Bundle Additional User	$86.00	$1,032.00
1	DocuWare Cloud 15 User Bundle Additional User	$65.00	$780.00
1	DocuWare Cloud 40 User Bundle Additional User	$44.00	$528.00
1	DocuWare Cloud 100 User Bundle Additional User	$27.00	$324
1	DocuWare Cloud Additional Storage – 10 GB	$14.00	$168.00

Solution Pricing – On-premises – Professional Server

Year	Quantity	Description	Unit	M&S	Price
1	12 Months	DocuWare Professional Server	$6,812.00	$1,365.00	$8,177.00
1	12	Named Client License – per user 1-9	$565.00	$142.80	$707.80
1	12	Named Client License – per user 10-19	$546.00	$136.80	$682.80
1	12	Named Client License – per user 20-39	$517.00	$129.00	$646.00
1	12	Named Client License – per user 100-139	$440.00	$109.20	549.20
		Common Optional Modules			
1	12	Auto Index	$3,328.00	$663.00	$3,991.00
1	12	Barcodes & Forms	$5,106.00	$1,011.00	6,117.00
1	12	Task Manager	$5,106.00	$1,011.00	$6,117.00
1	12	eForms	$12,698.00	$2,538.00	$15,236.00
1	12	Import	$2,558.00	$513.00	$3,071.00
1	12	Intelligent Indexing	$12,698.00	$2,538.00	$15,236.00
1	TBD	Applied Innovation PS Implementation & Training	$1,600.00 / Day		
		First Year Total Cost Dependent on Needed Modules and Number of Client Users			

Optional Scanner Pricing

Quantity	Description	Warranty	Price
1	Canon DR-M260 Scanner 120 ipm	5 Year Included	$1,015.00

Sample Implementation Overview

The following outlines an overview of the proposed application for each phase and how they will be utilized.

Phase 1 – Project Description

- **Project Kick-off**
    - Introduce team members and exchange key contact information
    - Conduct discovery meeting between Applied Innovation Implementation Team and Wayne RESA and participating organizations to further define and document project requirements which will be used to produce a Statement of Work (SOW)
    - Discuss change order process to accommodate project changes or additions during the implementation process

- o Deliver project Statement of Work to Wayne RESA and participating organizations for review and signature
- o Discuss and document a timeline for implementation to be agreed upon by Applied Innovation and Wayne RESA and participating organizations
- o Discuss and agree upon a communication cadence between Applied Innovation and Wayne RESA and participating organizations to be maintained throughout the duration of the project implementation period
- **Register and Configure DocuWare**
  - o Register DocuWare cloud account
  - o Create users and define permissions within DocuWare for up to 50 named users
  - o Create import process to accept and ingest documents scanned by a desktop scanner
  - o Convert up to 20 existing paper-based forms into DocuWare eForms
  - o Create cabinet(s) to house the departmental document types:
    - Up to 14 cabinets for district departments/schools
  - o Create indexing structure(s) for quick retrieval and organization of preceding cabinets and document types:
    - **Departmental Cabinets:**
      - **Sample indexing structure below, will be customized by department, program or document population**
      - Doc Type
        - o TBD (List to be finalized by Applied and Wayne RESA and participating organizations)
        - o Examples for HR (Driver License, Resume, Employment Contract…)
        - o Examples for Student Records (Transcripts, Registration Form, Final Grade Report, Emergency Card…)
      - Student Name, First
      - Student Name, Last
      - Student ID
      - Document Date
      - Capture Date
      - Full Text OCR
- **End User Training**
  - o Demonstrate how to scan a document on a desktop scanner and where it lands within DocuWare to be acted upon
  - o Demonstrate how to search and retrieve documents using Index Types or Keyword Search
  - o Demonstrate how to annotate and redact documents using the annotation tools
  - o Demonstrate how to deliver document(s) via email or by network printer
- **Project Close**
  - o Any project related documentation will be turned over by Applied Innovation to Wayne RESA and participating organizations
  - o Upon project completion, a period of five (10) business days will be allocated for user acceptance testing (UAT) to validate that the solution is functioning as designed. Wayne RESA and participating organizations will be responsible for testing the solution during this time and working with Applied Innovation to address any outstanding issues

o Upon successful completion of UAT, a project closure document will be provided to Wayne RESA and participating organizations for review and signature
o On-going support will transition to the Applied Innovation support team as describe in the Post Implementation Solution Support section below
o Discuss and agree upon a quarterly communication cadence between Applied Innovation and Wayne RESA and participating organizations to periodically review system performance, review any open issues or concerns, and review options to extend the solutions functionality with the organization

Post Implementation Solution Support

Monday-Friday, 8 am- 5pm Eastern Standard Time
Our office is closed on Saturday, Sunday, and standard US holidays.

Software Support Line: (616) 656-1301

Customer Service Line: (800) 521-0983

Please be sure to submit new ticket requests directly to **appteam@appliedinnovation.com** for the quickest response on new issues or requests. There should be a reply within 24 hours of the time the ticket is submitted.

Applied Innovation Content Services

Account Status Reviews

Applied Innovation aims to add value to our customer's business. Adding value is not a singular event, but a continuous process. We want to make sure that we not only continue to improve our operations, but that we ensure our strategies are refreshed regularly. Both Applied Innovation and Wayne RESA and participating organizations' executive and management teams meet to make sure our content strategy is always applicable. We have learned that a customer's needs are constantly changing, and we want to guarantee we are addressing those changes. Applied Innovation continues to offer value once agreements are complete by scheduling frequent contact with our customers through:

- Annual Customer Strategy Sessions
- Quarterly Strategy Updates
- E-Letter communications with relevant industry information
- Keeping key Wayne RESA and participating organizations executives involved with corporate strategies

Continuous Improvement

Service excellence is a mind-set shared by every member of the Applied Innovation team. Our team guarantees that we deliver a consistent level of quality service through both standard operational processes and constant innovation. We have built this total quality management system around five key initiatives:

- Continual Process Improvement
- On-going Development of Best Practices
- Consistent Implementation
- Measurement of Results
- Recognition of Excellence

Applied Innovation operates on the premise that client satisfaction is not a goal that can be reached with a set of static procedures. We recognize that to provide the best service to our clients we must constantly validate established benchmarks, measure the effectiveness of our performance against these benchmarks, and implement new procedures when necessary.

To enhance our ability to meet our client's requirements, we have implemented an initiative to focus on quality procedures and document best practices. We continue to cultivate our ability to bring best practices that have been adopted by other implementations, and our solution partners to provide the highest quality services to our clients.

The continual improvement never stops after the contract is signed. Your on-site staff will continue this process daily, and we will report back to you every month with a written document outlining service levels and productivity. Applied Innovation obtains customer feedback in the following ways:

- User Survey Email – information is requested and gathered on ease-of-use, workflow results, quality of support, timeliness of support response, and other areas deemed critical by Wayne RESA and participating organizations.
- Focus Meetings – established quarterly or semi-annually, as per Wayne RESA and participating organizations' requirements. Applied Innovation will meet with selected staff members to solicit responses on service levels and improvement areas.
- Monthly Operational Interaction – the Account Manager and Enterprise Software Manager will interact with staff members to obtain user group feedback.

Consistent Implementation and Training

Applied Innovation recognizes that the key to on-going client satisfaction is ensuring the consistent implementation of standard procedures and best practices that meet our individual clients' needs. To accomplish this task, we have developed an on-going training and professional development continuum to help bring new users into the process and introduce new features that will enhance Wayne RESA and participating organizations' productivity.

The goal of the training process is to communicate knowledge and provide the tools to empower your employees at all levels, to competently utilize the solution to its fullest.

Applied Innovation is strongly committed to implementing training as a process, not an event. It is for this reason that we require training of all employees and require the satisfactory completion of level specific modules. These are defined by Wayne RESA and participating organizations relative to security, authorization, and relative to the use and viewing of documents.

Applied Innovation's effective method for continual process improvement allows us to deliver services as promised. We will make sure to document changes, issues, and corrective actions that will drive toward a successful implementation. This will allow us to reach the objectives and the goals of Wayne RESA and participating organizations in a timely and effective manner.

We put these concepts into practice at the very beginning of the sales process by analyzing your needs, make recommendations for improvement based on preliminary service level benchmarks, and then implement these procedures upon installing our solution.

The entire Applied Innovation team looks forward to the seamless and efficient implementation of Wayne RESA and participating organizations' solution.

Contact Information

Thank you again for your consideration of Applied Innovation as your Enterprise Content Management Partner. You can reach me at mhizer@appliedimaging.com or (248-890-4068) with any questions that may come up.

Applied Innovation
5555 Glenwood Hills Pkwy
Grand Rapids, MI 49512
Toll Free: 800-521-0983

Acceptance of Proposal

Please sign below to acknowledge the acceptance of this proposal.

_____   _____   _____

Signature of district/ISD Representative   Date   Printed Name

K-12 Document Workflow Solutions

With Document Workflow Solutions from Applied Innovation, you can minimize your district's dependence on paper documents while simplifying and streamlining your student information, human resources and business office processes in a single, secure and scalable Document Workflow Solution. Improve process efficiencies, increases control, and enhances productivity. Our knowledgable team designs customized solutions to work with your existing SIS, HRIS and other legacy systems to improve internal and student/parent facing processes.

What can we help digitize and automate within a school district?

Student Records	Human Resources	Finance – AP	Contract Management
Electronically collect, manage, and share student records, including 504s and IEPs, with easy, secure document retrieval	Digitize your sensitive HR records for active and previous staff. Image enable your HRIS system or simply store, seach and retrieve critical HR information	Automate AP tasks to ensure timely payments and capitalize on early-pay discounts. Generate notifications and invoice exceptions reports for school leadership	Easily store and manage contracts, approvals, changes/expiration notices, and contract extensions. Also, implement a records retention schedule

Secure Information, Streamline Processes

Mike Hizer
Automation Consultant
(248) 890-4068
mhizer@appliedinnovation.com
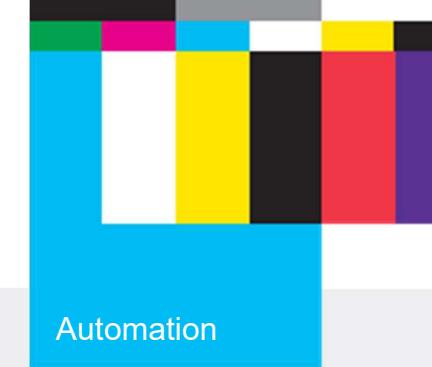
Applied Innovation's Document Workflow Solutions:

Cloud architecture and browser-based interface for fast, simplified user experience

Mobile apps (iOS and Android) to access documents and keep processes going from anywhere

Granual security and controls to allow the right people to see the right documents at the right time, and no one else
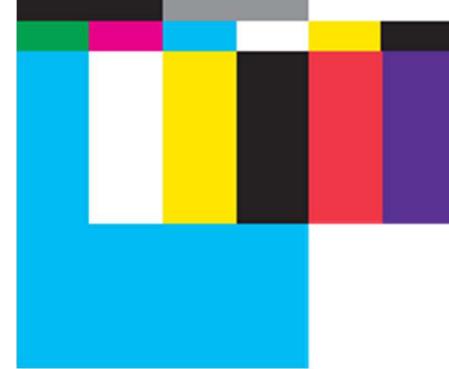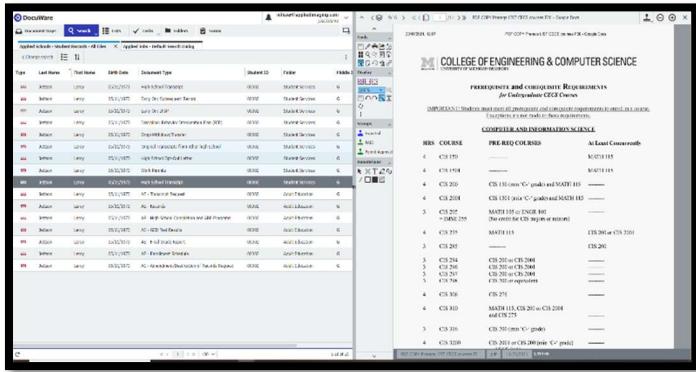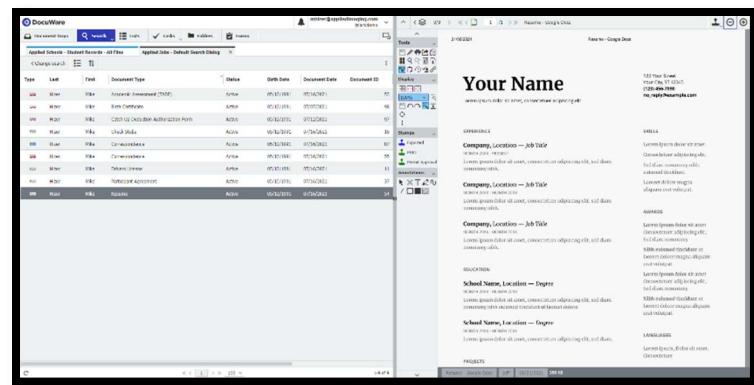
Customized by the Applied Innovation Team to address the unique needs of student records/services, human resources, business office, IT and facilities

Image enable your SIS, HRIS and other legacy systems from the same browser-based workflow solution

Integrated eForms allow for completely electronic, automated, auditable workflows by removing paper at the beginning of your processes

- Store student records in a secure, searchable digital archive to protect student privacy and comply with the Family Educational Rights and Privacy Act (FERPA)
- Use public-facing eforms that parents can complete online to collect registration information, health data and permission for participation in extracurricular activities
- Exchange information easily between staff, for example, a teacher, psychologist and guidance counselor developing an IEP
- Create automated workflows so all administrative processes run smoothly and quickly
- Allow permission-based access to HR records such as job applications, teacher evaluations and benefits enrollment documentation

Mike Hizer
Automation Consultant
(248) 890-4068
mhizer@appliedinnovation.com

DocuWare

Efficient automated processes support an engaged learning community

With DocuWare's leading document management and workflow automation solution, school systems are tightening security, freeing up staff time and improving data collection. The solution's digital platform effortlessly manages transcripts, health records, Individual Education Programs (IEPs) and other sensitive information. And by automating tedious administrative activities, DocuWare provides faster and more accurate service to students, parents and district leadership.

DocuWare addresses security concerns about student data privacy and cyberattacks. In addition, your district can ensure regulatory compliance with automated retention schedules.

With solutions for facilities management, accounts payable and human resources, DocuWare is a comprehensive answer to reducing costs in budget-constrained districts.

With DocuWare, you can:

- Keep documents and information centralized and secure while streamlining administration and improving collaboration

- Integrate documents with your student information system and business software to increase the value of your current technology

- Implement a solution that flexes with evolving technology needs without adding work for the IT team

- Protect against cybersecurity threats and natural disasters with a fail-safe disaster recovery plan

docuware.com

DocuWare

Achieve administrative excellence with budget-friendly digitization

Document management and workflow automation let you digitize paperwork and securely save it in an organized repository for quick retrieval when needed. Easily capture, store, manage, process, share and track documents. Controlled access, task lists and email notifications enable staff to handle daily responsibilities more efficiently and decision-makers to approve, reject or request more information along checkpoints in all your processes.

DocuWare for K-12 school systems delivers key features:

- Store student records in a secure, searchable digital archive to protect student privacy and comply with the Family Educational Rights and Privacy Act (FERPA) and state and local regulations for accessibility and records retention

- Use public-facing eforms that parents can complete online to collect registration information, health data and permission for participation in extracurricular activities

- Exchange information easily between staff, for example, a teacher, psychologist and guidance counselor developing an IEP

- Enable private schools to track admissions and financial aid through shared access to files and speed up processing with retrieval and routing tools

- Create automated workflows, escalation and exception rules so all administrative processes run smoothly and quickly

- Allow permission-based access to HR records such as job applications, teacher evaluations and benefits enrollment documentation

- Adapt to the need for remote hiring, onboarding and maintaining faculty credentialing records

Deployment options

DocuWare offers cloud, on-premises or a hybrid deployment to meet the needs of your budget and IT team. In any deployment, DocuWare has the same functionality and design.

▸ **DocuWare Cloud**: reduced upfront IT costs, financial flexibility, future-proof, secure technology

▸ **On-premises**: easy to use, highly customizable, secure solution in your own IT ecosystem

"Some people think office automation is only for big companies, but it has tremendous benefits for school systems. DocuWare is used by seven departments and its usage continues to expand!"

Jessica Roark
DISTRICT SOFTWARE SPECIALIST, DAVIESS COUNTY PUBLIC SCHOOLS

DocuWare

Document Archiving: Security and Safety Standards for **2021**

docuware.com

Security breaches, data loss, version management headaches and litigation against regulatory violations has become so common that it all feels like "normal" business.

But often these problems are entirely self-inflicted. Businesses frequently choose weaker security standards because it's easier, or choose to ignore laws because it's convenient, or fail to implement processes that ensure information integrity and transparency because it takes effort.

Stronger organizations that take serious measures for document safety rarely fall to these mistakes.

Introduction

Why the security of documents matters

Documents are a core element that keeps your business running. This treasure chest of data should always be protected. Ask yourself these questions and it quickly becomes clear.

For organizations:

- Are we protected against deliberate or accidental security breaches from within?
- Are we protected against external hacking threats?
- Can we recover our information in case of a natural disaster?
- Can we defend ourselves against accusations of data mismanagement?
- Are we protected against heavy financial penalties?

For users:

- Can I access the document I need at the moment I need it?
- Do I have confidence that I am looking at the right version?
- Can I safely store my business information without it being accessed by unwanted eyes?
- Do I have a process for maintaining retention periods for legally sensitive information?
- Am I trained against social hacking and social engineering attacks?

This document outlines modern security and safety standards for archiving and using documents and provides guidance when searching for a document management software provider.

Introduction

DocuWare

1

Encryption and access rights

Start at the very platform's foundation. How is digital data secured? What are the weakest points between systems? How can access to information be controlled? How is an organization protected from information breaches and theft?

Encryption and access rights

DocuWare

Authentication

All documents should be accessible only through authenticating a unique username and password. This not only allows specific access rights, but ensures a complete audit trail of which document was accessed, by whom, and what actions were taken.

Data Traffic

All traffic between systems and components should be encrypted with HTTPS. Unsecured traffic leaves systems wide open to hacking. HTTP lacks the security layer TLS/SSL and allows hackers to intercept critical data such as passwords and financial data.

Access Control

Access to documents requires multiple levels of control. On one hand, entire groups can be provided for collections of documents. On the other side, those same groups require access to what they can *do* with a document. Access rights must also be possible at an individual level.

For example, a member of HR can access most employee documents like resumes and performance reviews. Employees and their managers can access performance reviews. And employees can also access their financial and insurance information at an individual level.

Furthermore, it should be possible to restrict access to a document based on that document's index data, the key points of metadata used to describe a document's content and purpose.

Encryption

Documents should be encrypted with a key no less than 256 bits long. AES (256 bits) is military-grade encryption and is the current standard of the U.S. government for classified documents at top secret level that must be prepared for future attacks.
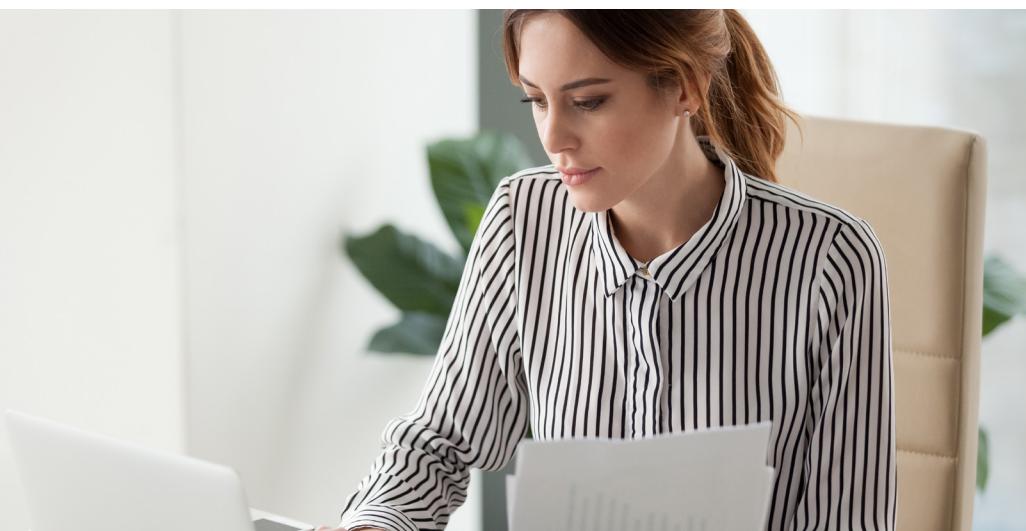
2

Redundancy and virus protection

Data storage redundancy is another pillar of information safety. If one system fails, will the backups ensure continuity for your organization? Redundancy and the protection of data against malware is necessary to maintain absolute peace of mind throughout the organization.

Redundancy and virus protection

DocuWare

Active redundancy

Any document management software, whether in the cloud or on-premises, should have at least two levels of storage redundancy. In addition, a third level of geographically segregated redundancy protects against natural disasters.

These fail-safes are a key advantage of modern cloud systems. By leveraging the cloud infrastructure services of a provider like Microsoft, major data centers across the world can be leveraged to synchronously and seamlessly protect information. Other cloud infrastructure providers include Google, Amazon and Oracle.

Data sovereignty

For many organizations, keeping their information within sovereign borders is extremely important. U.S. companies typically do not want their data in South America; companies in the EU do not want their data in North America unless they conduct business there. Cloud providers must ensure all data – and all data backups – stay within the borders that legally protects the customer and his or her data.

Protection against viruses and malware

Cryptoviruses embed themselves in documents and deliver their payload when opened on a user's local device. Document management systems must actively protect against these malicious threats so neither the user's environment nor the software platform itself are threatened.

DocuWare

3

Retention and compliance policies

Once encryption, access rights and storage redundancy are established, the organization must dictate how information itself is managed. Retention policies dictate what gets saved and when the data may be destroyed. Regulatory compliance provides legal guidance on the handling of information.

Retention and compliance policies

Retention policies

Certain types of documents must be kept within an organization for a legally mandated number of years. For example, invoices must be retained for seven years in the U.S. (but ten years in Germany) before their deletion is allowed.

Previously, this was done on paper, managed within shelves full of boxes, and shredded page by page through a monitored machine. Digital document management solves that — but the rules still apply. And a document management system must provide the workflow tools to enact protection or destruction at predetermined times in order to keep your business protected against litigation.

Key compliance initiatives and regulations

The past few decades have seen renewed interest in securing information, whether protecting the rights of individuals through the management of their data in a third party, fiscal transparency and more.

For example:

- **HIPAA:** The U.S. Health Insurance Portability and Accountability Act protects consumers in the U.S. about the use, disclosure and safekeeping of individually identifiable health data
- **CCPA:** The California Consumer Privacy Act is a set of data transparency, data access and privacy rights for citizens of California, USA
- **GDPR:** The General Data Protection Regulation is a set of European rules and standards designed to protect the personal data or personal identifiable information of individuals through data governance
- **Sarbanes-Oxley:** Prevents accounting errors and fraudulent reporting practices through accurate information disclosures

DocuWare

4

Integrity and auditing

Documents must have complete integrity
every time they're accessed. The most
rock-solid encryption standards and
narrow access rights don't mean much
if the document itself cannot be trusted.

Integrity and auditing

Electronic signatures

Users should be able to sign documents with a legally valid electronic signature. A **qualified electronic signature** is the most secure signature level. According to the European regulation on electronic identification and trust services for electronic transactions (eIDAS), the legal validity of a qualified electronic signature corresponds to that of a handwritten one. This kind of e-signature ensures the signature is legitimate and the document has not been manipulated because an authorized Trust Service Provider has issued the digital certificate and authenticated the signer.

Logging of changes

The only way to conduct accurate and thorough audits is to record every access, annotation and workflow state of a particular document. That way, an entire history can be reconstructed. This should be easily accessible as a CSV or other common file format.

Version management

Part of maintaining document integrity is understanding what exactly has changed between document versions and ensuring users are only ever editing the most current version. Locking "checked out" documents keeps changes from occurring and maintains a strict record of who changed what.

5

Industry standards that matter

There are a number of country-specific and internationally recognized standards for system quality, security and feature completeness. When researching where to house business critical documents, ensure your provider meets these crucial standards.

Examples of security standards and official regulations

DocuWare

Overall quality of the software and cloud provider

- **ISO 9001:** Excellent Rating Quality control in the production/manufacturing of software

- **ISO 27001:** Highest requirements for the production, introduction, operation, monitoring, maintenance and improvement of a document management system for information security

- **ISO 27017:** Maximum data security for the cloud; the data is protected against access by third parties and only the customer can access it at any time

- **CSA:** Hosting requirements for security, privacy, compliance and risk management set forth in the Cloud Controls Matrix of the Cloud Security Alliance

- **Keypoint Intelligence / Buyer's Laboratory:** Independent analysis for the industry of specialized office products

- **SOC:** SOC, or Service Organization Controls, are a series of standards that focus on a service organization's controls relevant to security, availability, processing integrity, confidentiality, and/or privacy. Service organizations include cloud software (SaaS) providers.

- **NIST SP 800-171:** Standards and guidelines for protecting information systems of U.S. federal agencies

For handling financial documents

- **GoBD (Germany):** Tamper-free long-term archiving according to the German Commercial Code HGB and Tax Code AO

- **Agencia Tributaria (Spain):** Requirements of the Spanish tax authorities for archiving scanned paper documents

- **GeBüV/AccO (Switzerland):** Ordinance on the Maintenance and Retention of Accounts, Switzerland

6

Safe document archiving vendor checklist

When evaluating document management and document workflow software, start with the security and safety of the candidate system. This foundation must be totally reliable: it supports the information that matters to your business. Without it, other features and capabilities don't matter.

DocuWare

Safe document archiving vendor checklist

A checklist can help maintain a fair evaluation between candidate systems when it comes to measuring security, compliance and safety features.

Does the system …

✓ Authenticate through individual username and password system?

✓ Send all data between web-based components through HTTPS?

✓ Enable group, role, individual and document-centric access rights?

✓ Provide modern 256-bit encryption?

✓ Actively backup all data, including in a geographically separated area?

✓ Store data within legally sovereign borders?

✓ Protect against malicious cryptoviruses and malware?

✓ Enable workflow to enact retention policies?

✓ Help you meet specific compliance standards for information handling?

✓ Retain the documents' integrity using electronic signatures?

✓ Log all changes to create a complete audit trail?

✓ Manage active and past versions of documents?

✓ Achieve recognized third-party security and quality standards?

✓ Enable secure integration with other corporate systems like CRM and ERP?

✓ Assure non-repudiation?

✓ Ensure maximum uptime and availability?

About DocuWare

DocuWare provides document management and workflow automation solutions that enable organizations to get the absolute most from their documents.

DocuWare

DocuWare Europe GmbH

Planegger Str. 1 | 82110 Germering | Germany

Phone: +49 89 894433-0 | **Fax:** +49 89 8419966

Email: infoline@docuware.com

DocuWare Corporation

4 Crotty Lane, Suite 200 | New Windsor, NY 12553 | United States

Phone: +1 (845) 563-9045 | **Toll-Free:** +1 (888) 565-5907

Email: dwsales@docuware.com

White Paper System Architecture

DocuWare Version 7.6

Contents

1   Introduction

1.1 Objectives of this White Paper

This White Paper explains the architecture of DocuWare as a locally installable software (on-premises system). You will find out which components and technologies DocuWare uses and how they interact. The document is aimed at readers with an interest in technology, particularly technical staff at clients, sales partners, and consulting firms, as well as specialist media. It shall enable you to form a technologically well-founded opinion about DocuWare as a locally installed system and to assess its capability in terms of flexibility, scalability and performance when handling current requirements.

If you would like to know more about other technical aspects of DocuWare, go to the DocuWare Knowledge Center to find additional White Papers on Integration, Security, Intelligent Indexing, Electronic Signatures and DocuWare Cloud.

1.2 Document management and workflow automation with DocuWare

DocuWare is a modern document management system for professional enterprise content management and workflow automation. DocuWare lets you access and process your documents and the important information they contain anytime, anyplace. The DocuWare system architecture stands out due to full multi-client capability, its service-oriented structure and cutting-edge technology for web and mobile applications.

DocuWare is based on the normal workplace environment and familiar working procedures. Documents such as invoices, delivery notes or contracts can be indexed, archived and thus made available and processed for all purposes in a fully automated manner. They are first gathered in electronic document trays, a little like the in-tray on your desk. Then you can edit the documents as usual – you sort them, clip them together if necessary, and add notes, comments, signatures, or stamps.

Finally, the documents are always stored in digital archives, the file cabinets. These file cabinets form what is known as the document pool. It is up to you how many file cabinets to create and how they are organized – you decide what makes sense for your company. Using the highly efficient index functions, all types of documents are always filed in the right place and displayed on screen with a few clicks.

Thanks to its automation and integration capabilities, you always have all documents at hand and easily use their data in your workflows and with all kinds of integrations. The DocuWare Knowledge Center tells you all about the different applications.

DocuWare for an on-premises installation is sold according to a licensing model that offers a basic solution and add-on solutions. Function bundles can be bought later as licensed modules.

1.3 Fit for the future thanks to cutting-edge technology and integration capability

DocuWare uses the latest technologies in programming and designing its system architecture. As a modern enterprise content management system, DocuWare is always one step ahead of the present to meet the varied user requirements of tomorrow. Therefore, you can smoothly integrate it with all kinds of business applications, such as your accounting system. Integration with DocuWare is done via simplified, wizard-guided configuration. You can also benefit from the special DocuWare connectors or integrate customized programming.

DocuWare works on a browser, to use its Web client, you just need an internet-capable device with a browser. Therefore you can use DocuWare across all platforms: The system can be called up on Windows, Mac OS and Linux devices. Only in a few cases are local Windows applications needed; these are brought together in DocuWare Desktop Apps, which can easily be managed centrally.

The DocuWare Web Client is based on HTML5 technology and thus supports all standard browsers, even for highly complex operating scenarios.

DocuWare works with open communication standards and uses HTTPS between the components, mostly either based on the REST (Representational State Transfer) or SOAP (Simple Object Access Protocol) technology.

The mobile applications of DocuWare are available in iOS and Android, and thus on all key platforms. To install DocuWare, the latest Windows versions are always supported and for the databases, all key server technology in a large number of versions, namely MS SQL, MySQL, and Oracle.

DocuWare Cloud and DocuWare as an on-premises solution are based on the same code, so both solutions offer an almost identical range of functions. On-premises customers also benefit from technological enhancements for DocuWare Cloud, for example in performance, stability and scalability.

1.4 Three-tier architecture

The DocuWare Server architecture is divided into three tiers:

1. Frontend services
   A part of the application logic is found in several services of the frontend role.
2. Backend services
   Another part of the application logic is found in several services of the backend role.
3. Infrastructure (storage locations, databases, fulltext functionality, message bus)
   In principle, several servers share common resources on one or more central background servers.

The frontend and backend roles are installed with DocuWare setup.

The three layers of the DocuWare system architecture communicate with the client applications via the frontend services. All dialog-oriented functions run in the browsers of the workstation systems and mobile devices used in the client applications.
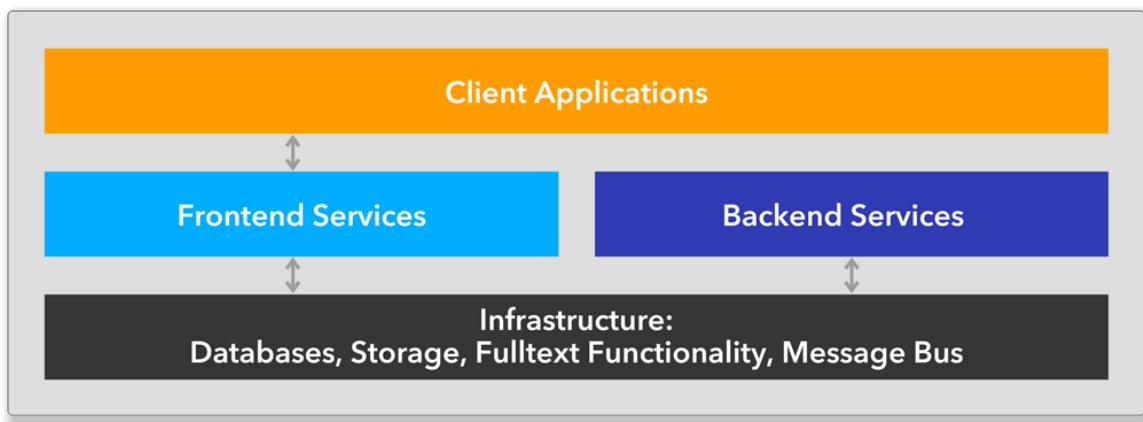
The term server here refers to a software service, not to a piece of hardware. A DocuWare system therefore invariably consists of several (software) servers, all of which can – as a minimal solution – simultaneously run on one hardware system.

1.5 System requirements

DocuWare relies on sustainable technologies and the greatest possible compatibility between the system and a wide range of different hardware and software components from other manufacturers. System requirements are therefore adapted with each new version. This section gives you an initial overview; for the most recent details, see "System Requirements" in the DocuWare Knowledge Center.

Web Client

DocuWare supports the latest versions of Firefox, Chrome and Edge Chromium browsers.

DocuWare servers

The servers of the DocuWare system are implemented on the basis of Microsoft's .NET architecture. They can therefore be run on all platforms that support a common version of Windows.

Infrastructure components

For databases, DocuWare supports the latest versions of Microsoft SQL Server, Oracle, and MySQL.

Terminal Server

The Microsoft Terminal Server and Citrix Metaframe can be used as extensions of the DocuWare system. However, the DocuWare Desktop Apps are not intended for use on a terminal server by default. In order to be able to use the Desktop Apps remotely on a terminal server, you have to make manual settings for each terminal server. You can find more information here.

Use of the DocuWare Desktop Apps as remote apps is not supported.

1.6 Using client licenses

DocuWare offers two types of client licenses: named client licenses and concurrent licenses.

New or newly enabled users automatically receive a free named client license. This is independent of how the user account was created – whether manually, via the platform API, via user synchronization or otherwise. If the user is deleted or disabled, the named client license can be assigned to other users again.

If you use both named client licenses converted from concurrent licenses and directly purchased named client licenses, the named client licenses converted from the concurrent licenses are used first.

A client license – regardless of whether it is named or concurrent – lets you use an instance of Platform, Web Client, Connect to Outlook, Windows Explorer Client, and Mobile at the same time. The following overview shows which DocuWare modules use these five components:

DocuWare Module	Platform	Web Client*	Connect to Outlook	Windows Explorer Client	Mobile
Web Client, Forms, URL Integration, Smart Search, Quick Search for Connect to Outlook		X			
Connect to Outlook			X		
Windows Explorer Client				X	
Mobile					X
PaperScan (for access to DocuWare)					X
SDK	X				
Connect to DATEV	X				
Connect to SAP Version 2	X				

Per browser on one device. In terms of the license requirement, whether a tab within a browser is classified as a separate browser varies depending on the browser.

The following applications do not require any client license:

- Desktop Apps (Printer, Import, Scan)
- DocuWare Administration

- DocuWare Configuration
- Workflow Designer
- Web Client ReadOnly
- Additional function "Public form" (web forms in general, however, require client licenses)

Examples for the client licenses requirement

1. Parallel work with Web Client, DocuWare Configuration, DocuWare Administration, Connect to Outlook, and DocuWare Mobile => 1 client license
2. Web Client used in parallel in two different browsers => 2 client licenses
3. Web Client used in parallel with Windows Explorer Client on one device => 1 client license
4. Web Client used in parallel with Windows Explorer Client on two devices => 2 client licenses
5. DocuWare Configuration used in parallel in two browsers => 0 client licenses
6. Web Client with the same user used in parallel for a public form => 1 client license
7. Mobile used in parallel on two different devices => 2 client licenses

Once a user has logged off, the client license will remain open for a further two minutes. If the user closes the Web Client or the Platform just by closing the browser, but does not explicitly log off, the license will also stay open for two minutes. Only if the browser is closed unexpectedly will the license stay open for longer periods of time in certain circumstances.

1.7 Using server licenses

For all servers there is a single license with the name "DocuWare Server."

- In the organization area of DocuWare Administration > General > Licenses you can only see the total number of server licenses you have purchased:
  - 1x Business: 1 server
  - 1x Professional: 1 server
  - 2x Professional: 2 servers
  - 1x Enterprise: 2 servers
  - 2x Enterprise: 4 servers
- You may install each DocuWare server role once for each server license (frontend services, backend services, fulltext service).
  - 1x Business: 1x frontend services, 1x backend services, 1x fulltext services
  - 1x Professional: 1x frontend services, 1x backend services, 1x fulltext services
  - 2x Professional: 2x frontend services, 2x backend services, 2x fulltext services
  - 1x Enterprise: 2x frontend services, 2x backend services, 2x fulltext services
  - 2x Enterprise: 4x frontend services, 4x backend services, 4x fulltext services

2   Client applications

The DocuWare system comprises three types of client applications:

- Web-based applications
- Windows-based applications
- Applications for mobile end devices

The following sections provide information about components in these various areas.

2.1   Web-based applications

The web-based applications include DocuWare Web Client and DocuWare Configuration. The following sections provide information about their system components.

Web Client

The Web Client is at the heart of DocuWare's client applications from a user's point of view. It allows you to access the DocuWare system online without having to install a client application.

The Web Client offers all the possibilities of modern document management and workflow automation. You can store and search the documents in a file cabinet (among other places) and display and edit them in the DocuWare viewer. You can also perform many of the same actions as with paper storage, such as combining several documents into a single file. Furthermore, you can handle all your document-based processes in automated workflows, for example your invoice approval process.

The feature set of the Web Client has more functions – such as the workflow task list or the Task Manager – depending on the modules, which can be licensed in addition to the standard DocuWare features.

The Web Client is based on HTML5 technology. The component is integrated in the Platform Service (page 20), which it uses to communicate with backend servers.

The Web Client uses the Desktop Service to communicate with the components of the DocuWare Desktop Apps.

Configuration

DocuWare Configuration consolidates the configuration interfaces of the applications, also called modules, within a DocuWare system. The applications are usually based on HTML5, with only a few components still based on Silverlight technology.

The DocuWare Configuration technically consists of two components: the user interface with the application components and the Settings Service (page 21) for saving the settings.

In each configuration module, you can

- create, edit and delete configurations
- assign permissions for the configurations to other users

In order for a configuration module to be displayed to you in the DocuWare Configuration, you need the corresponding functional right to use it. A list of the available configuration modules with the respective required function rights can be found <u>here</u>.

Organization Settings: Here you manage global settings for your system. You can make general settings for diagnostics and feedback, as well as for time and language. Furthermore, you define security settings for login, passwords, single sign-on (SSO) and the restriction of file types.

User Management: With this component you manage all users and rights within your DocuWare organization, including the functions:

- Create users and equip them with rights, dialogs, and stamps
- Modify user rights
- Unblock users blocked by failed login attempts
- Change password for users or send corresponding email to users
- Delete users

Audit Reports: With this component, you log the events within your file cabinet. Examples of events that are logged for a document at the individual levels, each with date, time and user, are: Store, index change with old and new value, display, print, send by email, annotate, etc.

All audit reports can be downloaded in CSV format and used for evaluations in other applications.

Mail Services: For your email services, you can set up connections to IMAP and Exchange servers here.

Text and Barcode Recognition: Here you configure the recognition of text (OCR) and of barcodes (OBR) with the settings for speed, accuracy, languages, barcode types and permissions.

Preconfigured Solutions: Here you can import preconfigured solutions into an existing system or export the configuration of the current DocuWare system. This is done using a DWBUC file that contains most of the configuration elements, such as file cabinets, forms, deletion rules, email notifications or workflows.

Document Processing: Here you define how your documents are processed in DocuWare. This can be set up for different sources: scanner, folder and DocuWare Printer.

In a processing configuration, you set the target file cabinet for the documents, make settings for indexing, and define details such as adding a metadata file or electronic signature. To store documents in a file cabinet, you need at least one processing configuration. Without a processing configuration, you can only store documents in your default basket, but not in a file cabinet. In order to execute such a configuration, you need the appropriate DocuWare Desktop Apps.

In addition, you can import files with XML metadata in the formats described here.

Note: If you have set up several connections while working in the Document Processing configuration area, the active connection changes to the system currently in use under certain conditions. For example, a user has two connections in the Desktop Apps: one for system X and another for system Y. The connection for system X is the active one. If the user logs on to system Y and opens document processing, the connection automatically

changes to system Y as soon as he opens an existing or new configuration that contains an example document.

Forms: Here you set up Web Forms with the settings, among others: select and assemble form elements; submission details; store as form or template; select store dialog; indexing; permissions. You can integrate Web Forms into the document workflow with DocuWare.

Connect to Outlook: Here you set up storing configurations for email handling in the connection of Microsoft Outlook with DocuWare. You can archive your emails from Outlook in DocuWar. Conversely, you can access your archived emails in Outlook.

The following settings, among others, are available to you: specify archiving type, enable automatic invoice detection, use information from XML invoices in email attachment for indexing, define storage destination, assign permissions.

You can also set the criteria for quick searches. With a quick search you perform a search in DocuWare from a selected email.

General Email: Here you define the rules according to which emails from a webmail account are automatically imported into DocuWare. The following settings, among others, are available: define storage destination, assign permissions, link email accounts with storage configuration, determine mail server setting automatically.

Indexing Assistance: This is where you set up select lists and field masks.

- Select lists: Here you create fixed select lists, assign fields to them and import fixed select lists. Furthermore, you can create dynamic select lists and assign fields to them as well.

- Field masks: Here you add individual field masks to the fields from the File Cabinets area. At each position of the index word, the user can only enter those characters that are specified in the mask definition.

Intelligent Indexing: Here you configure DocuWare's Intelligent Indexing service. Intelligent Indexing classifies documents and automatically searches for relevant index terms.

The component is based on HTML5 technology.

Autoindex: This component is used to synchronize and complete index data. You automatically add external data as index data in DocuWare or pass index data from DocuWare to third-party applications.

DocuWare can also use metadata and search words from an external data source to archive documents. Autoindex transfers this data and adds it to the file cabinet as index entries. The external data source can be a DocuWare file cabinet, a database (table, view or SQL command) or a file. Autoindex matches the external data with the documents in the DocuWare file cabinet so that related documents are displayed. A match code is used to match records from the file cabinet and the external data source.

Autoindex jobs can be started in different ways: manually, according to a schedule, when a new document is stored or a previously stored document is changed, or using an indexing file (e.g. CRM). Contents of database connections can be additionally filtered by SQL.

File Cabinets: Here you set up archives. Basic archive components such as the fields are predefined and can be assembled into store and search dialogs as well as lists or result lists according to the modular principle. Access security is ensured by preconfigured standard profiles that are assigned to individual users and roles (e.g. read, edit, administration).

In addition, you can define database fields, search dialogs, store dialogs, result lists, lists, select lists for fields and folder structures, among other things.

Document Relations: With this component you make sure that all additional documents are listed that are related to a specific document. The links are available both in the result list and in the DocuWare Viewer.

Deletion Policy: DocuWare lets you delete selected documents after a specific time period – for example once the legally required retention period is up. Here you set up rules for deletion processes.

Synchronization: With this component you merge data from distributed DocuWare installations. The documents are mirrored or synchronized from a source to a target file cabinet. It is particularly well suited for data synchronization of local organizations and cloud organizations. In this synchronization, all file cabinets involved are equivalent.

You can find more information in the section .

Transfer: With this component large volumes of documents can be moved or copied from one system to another file cabinet. The target file cabinet can be in another organization or DocuWare system.

As well as the index entries, the system entries for a document and the fulltext information are included in the transfer.

Notifications: Here you set up email notifications. A notification is an automatically generated email from the DocuWare system that is sent via an existing mail server as soon as a certain event occurs regarding a document archived in DocuWare. For example, a user can be informed by email about a pending task, such as invoice processing.

The following settings are available: specify archive, set triggers for events, define email properties, assign permissions and set up scheduling.

Request: Here you set up the export of documents as a Request file cabinet. The following settings, among others, are available: select documents, format, search options, set filters, prepare exported request archive for electronic signing, import documents from request archive into existing archive, schedule export, set storage destination, and assign permissions.

Stamps: Here you set up stamps. You can use a stamp to place information on a document without changing the content. Depending on the configuration, the stamp can modify or add index entries to pass documents through the process.

Document Trays: Here you set up document trays. This is the place where the documents that are waiting to be processed are located. These can be documents that are not yet stored or copies of documents that are already in the file cabinet.

There are, among others, the following settings: Determine connection to file cabinet, enable Intelligent Indexing and assign permissions.

Smart Connect: In this component you set up Smart Connect. This application reads content from the user interface of any application of your choice, and transfers this to DocuWare as a search or index entry. You determine, among other things, which content should be read from which applications and where the extracted content will be used in DocuWare: as search words in a search dialog including fulltext of a document (Smart Search, Highlight Search) or as index words in a store dialog or info box (Smart Index).

Smart Connect is part of DocuWare Desktop Apps and uses its connections.

Export Data: Here you configure the export of document index data to enable data transfer to third-party applications. This is particularly useful if DocuWare is integrated with ERP and accounting systems and the index data of the invoices is to be imported into these systems. The export takes place as a CSV file.

When structuring the data to be exported, all conventions that leading accounting systems provide for an import are covered.

Export is part of DocuWare Desktop Apps and uses its connections.

Webservices: Here you centrally manage all web services that you want to integrate into DocuWare. You can create web services of the types REST and SOAP. The stored web services are made available to you in selection lists in the module configurations that work with web services: for workflows, e.g. for connecting signature service providers, in the Workflow Designer (REST, SOAP) and for validations in the file cabinet configuration (REST).

With DocuWare you can use all available and suitable REST web services. If you want to use a SOAP web service for application in Workflow Manager, it must be developed for the purpose. For this, you can contact your DocuWare partner. You can find more information on REST and SOAP web services and a demo example of a SOAP service <u>here</u>.

Webhooks: Here you register webhook URLs for DocuWare's communication with third-party applications. DocuWare sends the notification as a POST request to the URL that monitors the third-party application and thus receives the message. This feature can be used, for example, to notify other business applications when documents are re-filed in a file cabinet or associated index entries are changed.

2.2 Windows-based applications

Windows-based applications in the DocuWare system include administrative applications and services, the Client Setup and DocuWare Update, user applications as well as DocuWare Request.

User applications (Windows)

User applications comprise all applications that run under Windows on a user's client computer and are available for users. An important portion of these are summarized under the DocuWare Desktop Apps.
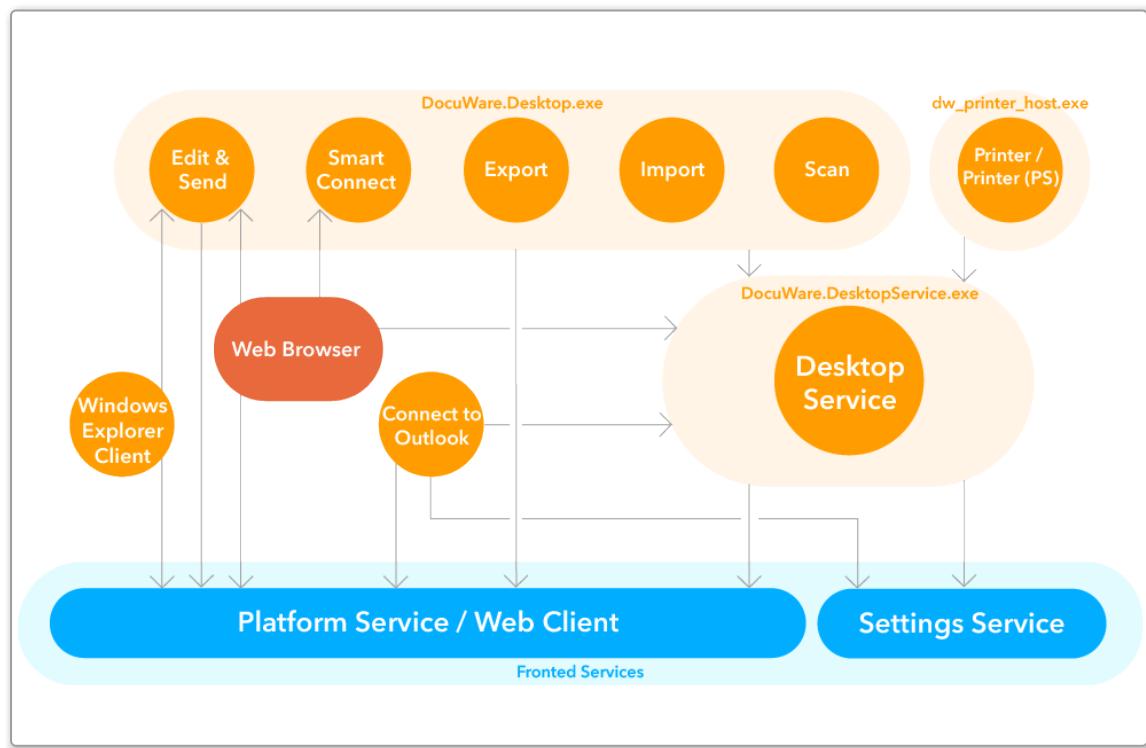
DocuWare Desktop Apps

The DocuWare Desktop Apps component runs in the Windows notification field (tray area). It acts as a platform under which the following client components and functions are consolidated:

- Edit & Send
- Export
- Import
- Printer
- Scan
- Smart Connect

The entry data for these applications and functions are sent to the Platform Service and, respectively, to the Web Client (Smart Connect).

The DocuWare connections between the client and the DocuWare system are also established here. The connections can be used by DocuWare Desktop Apps as well as by the Connect to Outlook and Windows Explorer Client components.

Individual Desktop Apps access the Platform Service using the .NET API platform.

The processes of the DocuWare Desktop Apps and other components that use these processes

Desktop Apps are installed on the client PC directly from the Web Client.

Desktop Service: Desktop Service is required for operating DocuWare Desktop Apps. It runs once on each computer connected to a DocuWare installation and establishes the connection between DocuWare Desktop Apps and DocuWare servers. The service serves as host for various local services and allows them to access interfaces.

The Desktop Service retrieves the processing configurations for importing, processing, and storing documents in DocuWare from the Settings Service.

The Desktop Service transfers the documents to the <u>Platform Service</u> (page 20) for storage in the file cabinet. The fulltext generated by the DocuWare Desktop Apps is also stored at the storage location by the Desktop Server using the Platform Service.

The component is installed with the Client setup as part of the Desktop Apps.

Edit & Send: The Edit & Send application allows DocuWare Web Client to open and edit documents in the user's default application for the corresponding file type and to transfer documents to the standard email client.

The application runs in the background without any user interface.

Export: With DocuWare Export, you export index data of documents for data exchange with third party applications. This is especially useful to integrate DocuWare with ERP and accounting systems. For example, export invoice index data to import them into your accounting system. Any accounting and ERP system capable of accepting a flat CSV file as input can utilize the data export.

DocuWare Export is configured in DocuWare Configuration under Export Data.

Exports are started using the DocuWare Export app, which is a standalone Desktop App.

Import: DocuWare Import monitors selected directories in the file system or network and moves the files stored there automatically to DocuWare document trays or file cabinets.

Processing documents when importing, for example indexing, can be controlled using document processing configurations, which are determined in the DocuWare Configuration under <u>Document processing</u>.

Printer: DocuWare Printer allows you to archive documents in DocuWare using the print function of your third-party applications. The documents can also be printed out on paper on a printer. Processing documents when printing, for example indexing, can also be controlled using configurations, which are determined in the DocuWare Configuration under *Document Processing*.

The component technically consists of a virtual print driver that generates PDFs. DocuWare Printer only appears in the printer list of third-party applications and is not a visual component by DocuWare Desktop Apps.

Scan: With DocuWare Scan, the user can scan paper documents, import the document scans in DocuWare, and store them in the PDF/A long-term archiving format in his or her default document tray or in a DocuWare file cabinet. Any scanner installed on the user's PC (which has TWAIN and WIA drivers) can be used for this.

The user defines the settings for Scan directly in the client application. In order to be able to store the documents in a DocuWare file cabinet, the user must also be assigned a suitable processing configuration, which is created in the DocuWare Configuration under <u>Document Processing</u>.

Smart Connect: You can use DocuWare Smart Connect to connect any Windows application you like with the DocuWare file cabinet without any programming. It helps the user search for documents in DocuWare and index documents from third-party applications. To do this, Smart Connect reads content from the user interface of any application of your choice, and transfers this to DocuWare as a search or index entry.

When applying Smart Connect, a configuration created in <u>DocuWare Configuration</u> is always executed.

Connect to Outlook: With Connect to Outlook, you archive your emails directly in DocuWare from Microsoft Outlook and use quick search to access stored emails.

Configurations for Connect to Outlook are defined in the DocuWare Configuration.

The component accesses the DocuWare servers using the Platform Service.

Both the 32 and 64-bit versions of Microsoft Outlook as well as Office 365 are supported.

Windows Explorer Client: The Windows Explorer Client integrates DocuWare file cabinets into the Windows file directory and shows the file cabinets in the folder file structure that users are accustomed to. The Windows Explorer Client is implemented as a Windows Explorer name range enhancement and loaded with this process.

The component draws the connection information for the DocuWare system from DocuWare Desktop Apps. It receives the settings via the Settings Service. Windows Explorer Client accesses the DocuWare servers using the Platform Service.

Administrative applications (Windows)

The administrative applications are DocuWare Administration, Workflow Designer, User Synchronization, URL Creator, and Index Cleaner.

DocuWare Administration: DocuWare is administrated using DocuWare Configuration and DocuWare Administration. Use the DocuWare Administration to set up your DocuWare system and manage a certain part of the settings. The application calls up the required information directly from the backend servers, especially from the Authentication Server. Administration is divided into two areas:

Under "DocuWare System," you can find general settings for the items:

- DocuWare Server
- Database connections
- Document storage locations
- External user directories
- Backup
- Web connections

Under "Organizations," you can find settings for the items:

- Licenses
- Web instances
- File connections
- User administration
- File cabinets: Disk management

DocuWare Administration can run on any computer which has access to the backend servers. Every user with access to the .exe file can start the program. However, depending on the permissions a user has been granted, certain nodes, menus, and dialog boxes may not be visible. Data that is being edited by one user is locked for other users and can only be accessed in read-only mode.

You make all other general settings and security settings in the DocuWare Configuration.

Workflow Designer: The Workflow Designer component allows you to create, edit, and publish workflow configurations for the Workflow Manager module. When you use Workflow Manager, a previously created configuration is always run and a new instance of the workflow is therefore created each time.

Among other things, which task is to be completed and which decisions are to be made in it are specified in a workflow configuration. In addition to a user or role, a task may also be assigned to a substitution rule.

You can export a workflow and import it into another file cabinet. The selected file cabinet can belong to your organization or be in another system. The import is possible as a new workflow or as a new version. It is essential that the source and target file cabinets match for an import.

The Workflow Designer calls up the settings from the Background Process Service (page 24) and other backend services using the Settings Service (page 21).

Workflow Designer forwards all information for workflow task lists in the Web Client using the DocuWare Platform Service (page 20).

The component draws the connection information for the DocuWare system from DocuWare Desktop Apps.

User Synchronization: With this component, you automatically synchronize users and groups with your DocuWare system from Microsoft Active Directory via LDAP (Lightweiht Directory Access Protocol) or from Microsoft Graph.

The user synchronization does not obtain the connection information to the DocuWare system from the Desktop Apps, but these must be explicitly specified and stored. This ensures that the user synchronization is performed without the Desktop Apps and unattended.

URL Creator: The DocuWare URL Creator is a wizard for creating URL integration. The tool automatically compiles the URL and adopts the Base64 coding required for certain parameters and the encryption.

Index Cleaner: Index Cleaner is a wizard for cleaning file cabinet index entries for which various spellings have accumulated.

The component draws the connection information for the DocuWare system from DocuWare Desktop Apps.

2.3 Mobile clients

With DocuWare mobile clients, also called Apps, you access DocuWare directly from your mobile device, whether using iOS or Android.

DocuWare

You can also access all documents, participate in workflows and store documents, images and files on your smartphone, even from other apps. The free app is connected to your DocuWare system via QR code.

The app requires an active connection to your DocuWare system. Files are stored locally on the mobile device.

DocuWare Mobile connects directly to the platform service.

PaperScan

With the PaperScan app, you can scan documents with the highest quality and upload them to Dropbox, Google Drive or DocuWare, allowing other users to access them when needed. The scans are only stored locally. Only when the user stores them in one of the cloud services mentioned above, the data is transferred to an external server.

PaperScan connects directly to DocuWare's Platform Service.

3 Frontend Services

The DocuWare Frontend Services are based largely on the Internet Information Services (IIS), a service platform by Microsoft. This allows the services to be easily operated with TLS/SSL encryption by adjusting the IIS configuration.

The following sections provide information about the components associated with the DocuWare Web Servers:

- Platform Service and Web Client
- Settings Service
- Identity Service

Load balancing is possible for all three services.

Information on installing and managing the Web Servers can be found in the Server Setup (page 54) section.

3.1 Platform Service and Web Client

The DocuWare Platform Service bundles access to all DocuWare services in an efficient interface open for all programming languages. In addition, all third-party applications can be very easily connected to DocuWare for access to the DocuWare resources.

The Platform Service is automatically installed during setup and can be accessed in the Internet Information Services (IIS) on the used Web Server under the address *https://<Servername>/DocuWare/Platform*. It enables uniform access for all clients and to any device. This works both with DocuWare applications and with third-party applications based on the DocuWare .NET SDK.
The Platform Service accesses the Authentication Server and the databases directly.

By using HTTPS and the modern architectural style Representational State Transfer (REST), the Platform Service is extremely efficient and acts as a uniform interface for very different connections. Resources are embedded into the third-party application through XML or JSON. The Platform Service contains an overview of the available resources and documentation about how to use them. An annotated XML Schema Definition (XSD) is attached to all data formats, from which documentation is automatically created and which is always up-to-date. Thanks to XSD, libraries to simplify programming can be automatically created for various target platforms. The libraries can easily be updated to ensure that data formats remain up to date. DocuWare provides a .NET API on NuGet for .NET developers to guarantee user-friendliness.

You can also directly log into a DocuWare system from the Platform Service in order to see information such as search dialog IDs or file cabinet GUIDs. URI templates for integrating resources also save the developer time.

Applications that use the Platform Service are also compatible with future versions of DocuWare. This means that when DocuWare is upgraded to a new version, client applications do not necessarily have to be updated.

The Platform Service supports a diverse array of procedures which speed up HTTP-based web applications. HTTP caching methods bring a significant increase in speed across many scenarios. The platform also supports transparent compression and works behind proxies.

For more information, see the DocuWare Developer Documentation.

Web Client

Web Client, which provides DocuWare's graphic user interface for working with documents (see also the section Web Client in the chapter "Client Applications"), is integrated in the Platform Service.

The Web Client can be accessed under the address *https://<Server name>/DocuWare/ Platform/WebClient* and uses the same services provided by the Platform Service.

Workflows for Workflow Manager

This platform service processes for Workflow Manager the data that is generated by user interaction in DocuWare Client, for example inputs like confirmation of tasks.

3.2 Settings Service

The Settings Service provides access to most DocuWare system settings. The DocuWare Configuration runs in the Settings Service.

The Settings Service calls up settings directly from the databases and delivers them to client applications. The interface is not approved for in-house programming.

The Settings Service transmits the storage capacities for administration of the DocuWare document trays. The Settings Service manages the request workflow using the Background Process Service.

3.3 Identity Service

Together with the Authentication Server, the Identity Service is responsible for user login. The Identity Service handles authentication via single sign-on (SSO) and DocuWare authentication. As a central service, it is responsible for all organizations within a DocuWare system and thus also for the DocuWare login page. It ensures that the DocuWare login page always opens, regardless of which DocuWare application (Web Client, Configuration, Desktop Apps or Mobile) and to which organization a connection is to be established.

As an additional feature, SSO can be enabled and disabled. If it is enabled, you will see the SSO button on the login page. By default, SSO is enabled and set with Microsoft Active Directory via NTLM (Windows Login). This can be disabled or switched to, for example, Azure AD or ADFS via OpenID Connect. Enforcing SSO is optionally available for all identity providers. This allows you to specify that users can no longer log in with DocuWare credentials, but only via SSO. Thus in a DocuWare system, you use secure multi-factor authentication (MFA). By enforcing SSO within DocuWare, you can also indirectly force users to use MFA, as long as MFA is set up at the identity provider (e.g. Azure AD or ADFS).

The Identity Service accesses the database directly and communicates with Platform Service, Settings Service and Authentication Server.

If you use the internal mySQL database of DocuWare, it must be updated to version 2. If you use an individual MySQL installation it must be updated to MySQL version 5.6 or higher.

4 Backend services

Backend services are the servers in a DocuWare system that are managed via DocuWare Administration. They are used to run all background processes and access document storage locations as well as databases.

You will find information on backend services in the following:

- Authentication Server
- Background Process Service
- Workflow Server

Information on installing and managing the backend services can be found in the <u>Server Setup</u> (page 54) section.

4.1 Authentication Server

Authentication Server manages all users and resources of a DocuWare system. Before you can use the system, you must always log in to the Authentication Server.

It handles the following tasks:

- User login
- License management
- Administration of several resources at system level such as database connections

Before you can use the system, you must always log in to the Authentication Server.

In order for DocuWare to be multi-client enabled, users are allocated to "organizations," which are managed by the Authentication Server. An organization thus comprises the following as a logical structure:

The Authentication Server stores the settings in the DWSYSTEM database. The Authentication Server transmits changes in settings to other components via <u>Message Bus</u> (page 45).

The Authentication Server is managed in DocuWare Administration.

4.2 Settings Service

The Settings Service manages most resources of a DocuWare system including the users.

In order for DocuWare to be multi-client enabled, the users and other resources are assigned to "organizations," which are managed by the Authentication Server. An organization thus comprises the following as a logical structure:

- Users and user groups
- File cabinets, including their associated disks
- Processes

- Templates for stamps, formats for recognizing text (OCR) and barcodes (OBR), select lists
- Audit report

DocuWare uses a role concept for permissions. A role for user groups or individual users on one side connects to permissions profiles or individual permissions on the other. Individual users can be assigned individual permissions independently from this process.

Authentication Server is therefore used by:

- One or more organizations each with
- At least one or more users

Additional information on the permissions concept can be found in DocuWare's White Paper Security.

4.3 Background Process Service

The DocuWare system runs various background processes, the following of which are hosted in the Background Process Service:

- Autoindex
- Creating and importing self-supporting DocuWare Request file cabinets
- Control of workflows
- Customer Experience Improvement Program (CEIP)
- Email notifications
- Export of documents
- Deletion policies
- File cabinet synchronization
- Fulltext structure
- General Email
- Intelligent Indexing
- Transfer

The background processes are managed in DocuWare Configuration. Exceptions are the processes CEIP, transfer and export of documents, which are managed in DocuWare Administration.

Autoindex

The Background Process Service checks the saved user ID against the Authentication Server, calls up data from configured sources, and communicates with the Platform Service for indexing. It also automatically starts Autoindex at a defined file cabinet event, for example the storage of a new document.

Control of workflows

The Background Process Service stores and manages workflow configurations and workflow instances from the Workflow Manager module.

One new workflow instance is generated per edited document. These workflow instances are controlled by entries in the DWSYSTEM.DWTasksWFE table. The workflow configurations and workflow instances are stored by the Background Process Service in the DWWORKFLOWENGINE database and called up from there.

All settings that affect permissions and other sensitive data are called up by the Background Process Service from the Authentication Server.

Fulltext structure

The Background Process Service is responsible for extracting fulltext in the event that this data is not included by the client during the storage process. This is the case for several DocuWare Desktop Apps. The Background Process Server stores the fulltext in the DWDATA database and forwards it to the Fulltext server at the same time.

Deletion Policy

The Background Process Service manages the rules for deleting documents. These rules are defined through filters.

Document Export

The Background Process Service exports file cabinets or partial file cabinets by creating a copy of a file cabinet or individual documents. A DocuWare file cabinet export includes both the documents and the database entries.

The target of the export are file cabinets within the DocuWare system. You can export into new or existing file cabinets within the DocuWare system.

Email Notifications

The Business Process Service manages email notifications for the Workflow Manager and the Task Manager modules. If a trigger setting is set for a processed document, the DocuWare servers generate an event. There are two possible trigger settings:

- A document is stored.
- A document's index data changes.
- A time trigger was set.

The DocuWare server generate an entry in the database table (DWSYSTEM.DWTASKS). The process reads the task from there and processes it.

Depending on which database subscriptions have been set up, the process multiplies the events for email notifications and sends the notification using its SMTP connection.

General Email

For storage, the Background Process Service sends the documents to the Platform Service.

Intelligent Indexing

If there are conditions saved for the hosted Intelligent Indexing Service, the Background Process Service starts the document indexing order, creates structure data, and sends it to the Intelligent Indexing Service.

After indexing, the Intelligent Indexing Service returns the meta data, which the Background Process Service stores in the data store after the suggested index data has been corrected by the user.

Finally, the Background Process Service sends the corrected data to the Intelligent Indexing Service, which takes it into account for future queries.

4.4 Workflow Server

The following background processes are hosted on the Workflow Server:

- backup and restore of data
- user synchronization
- export of documents

Backup and restore

The backup and restore process saves the file cabinet settings, the users and permissions of your DocuWare system, and also the Workflow Manager configurations.

The component is managed in DocuWare Administration.

User synchronization

DocuWare permits the synchronization of its users and groups, both with Windows directories and through LDAP. Configurations for the synchronization with external user directories are specified on the system level and can be made available to the individual organizations.

The configurations set up on the system level are used to set up the workflows. The scheduling for the Synchronization workflow is also set on this level. The organization administrator also assigns DocuWare groups and users of his organization to external groups and users as the basis for the synchronization.

The component is managed in DocuWare Administration.

4.5 Administrative applications and services

The administrative applications and services in the backend servers include:

- **Service Control**
  As a Windows administrator you can start and stop individual backend services in the DocuWare Service Control. The component is installed with the Server Setup (page 54) as standard.
- **Message Bus Administration**
  DocuWare services use Message Bus for communication through use of the Message Bus Administration.
  The component is installed with the Server Setup (page 54) as standard.

- **Migration of documents**
  With the Document Tool you can migrate documents within a file cabinet to another disk with another disk number. As a rule, a migration is started in order to reduce the disk sizes within a file cabinet or to combine disks. For example, a file cabinet can be saved to disks in the same size as a CD/DVD in order to prepare the transfer to external media.

- **Index restores**
  With the Document Tool, you can restore the index entries of a DocuWare file cabinet in the database from the stored documents. The database structure must be available in order to restore the database information using the saved document.

5   Databases, storage locations, and fulltext index

DocuWare requires several databases and at least one file storage (file cabinet). Installing the fulltext functionality is optional.

5.1 Databases

For its operation, DocuWare requires several relational databases. These databases are used for storing the structured index data of the documents, for searching them and for the full-text index. In addition, DocuWare stores all essential system information (such as Authentication Server data) in a database or saves workflow information there.

Supported database systems

All market-leading database systems can be coupled with a DocuWare system: MS SQL Server, Oracle Server, and MySQL Server. The administrator has the option of specifying a particular database to be used for each file cabinet. In addition, a cluster system can be connected. Databases may reside on autonomous servers outside the DocuWare server area. DocuWare can work with several database connections to different servers and different databases simultaneously. Several simultaneous connections can be established to one database.

To ensure optimum performance and maintainability, DocuWare recommends using the Microsoft SQL Server database system for archives with more than 1 million documents (without full-text functionality) or more than 200,000 document pages (with full-text functionality). As an alternative, you can also connect an Oracle database. Please contact DocuWare Professional Services for support in the migration of databases.

Internal database server

In the event that no external database server is provided or can be set up, DocuWare also offers an integrated database server as part of the standard feature set (Internal Database). This MySQL server can be optionally installed with the Server Setup (page 54).

If an MSSQL database is used, the archive name can be up to 128 characters long, with MySQL up to 64 and with Oracle up to 32 characters.

The structure of the databases

A DocuWare system contains the following databases:

- System database (DWSYSTEM)
  All data on rights, licenses, and settings are stored in this database. Auditing data at system and organization level can also be found here.
- Database for document data (DWDATA)
  This database contains all internal system information for searching and finding documents. You can create several such databases. For more details, see the "Database for document data" section below.

- Notification database (DWNOTIFICATION)
  This database contains all the events that the Background Process Service needs to run workflows and email notifications.
- Workflow Engine database (DWWORKFLOWENGINE)
  This database contains all information required by the Background Process Service for creating, editing, and executing workflow configurations.

The database for document data (DWDATA)

Searching and finding documents stored in DocuWare always occurs in the database for document data (DWDATA). This is where the DocuWare services store the index data of each document in a structured form (relational) and optionally also in the form of a fulltext index.

The database not only manages the search criteria that are relevant for the user, but also the system-internal information needed for storing and retrieving the documents in the file cabinets. The key characteristic of a document is its DOCID, a unique number within each file cabinet. The DOCID refers to the complete document even if it consists of multiple files.

The fields specify the keywords and categories by which documents are stored and retrieved.

Thanks to separate keyword tables, it is theoretically possible to have an unlimited number of keywords for each document. Moreover, it is possible to create several keyword fields in one file cabinet. The speed for searching in keyword fields is very high since the keyword column in the table is indexed. As soon as the corresponding entry is found, the DOCID allows direct access to the database entries of the associated documents.

There are also separate tables for the table fields. The entries for the tables are only available for the full text search. The table field tables are limited to 50 columns per table. For each document, 1000 lines can be stored in the table.

If you are using a tool that addresses an archive of table fields, you may need to update it to the Platform.NET API version 7.1 or higher.

The database for document data contains the following tables:

Name	Mandatory	Usage	Counterpart in DocuWare Versions up to 6.12
<FCName>	Yes	File cabinet main table	<FCName>
<FCName>_SEC	Yes	Section table	<FCName>_SECT
<FCName>_PAG	Yes	Page table	<FCName>_PAGE
<FCName>_PGT	Yes	Page textshots	
<FCName>_VRS	Yes	Old versions (not current version)	<FCName>_VER
<FCName>_AUD	Yes	Protocol table	
<FCName>_DSK	Yes	Disk table	<FCName>_DSKS
<FCName>_LCK	Yes	Locking table	<FCName>_LOCK
<FCName>_IDT	Yes	Document ID table	
<FCName>_DELz	Yes	Table of deleted documents (Sync)	<FCName>_RD
<FCName>_<KeywordFieldName>[nn]	Per keyword field	Keyword table	Remained the same
<FCName>_<TableFieldName>[nn]	Per table field	Table-field table	

Name	Usage
<FCName>_V5	Old documents (created with DocuWare up to Version 6.12; not processed with DocuWare Version 7 or higher)
<FCName>_V5S	Old sections (created with DocuWare up to Version 6.12; not processed with DocuWare Version 7 or higher)
<FCName>_V5P	Old pages (created with DocuWare up to Version 6.12; not processed with DocuWare Version 7 or higher)
<FCName>_V5V	Old versions (created with DocuWare up to Version 6.12; not processed with DocuWare Version 7 or higher)
<FCName>_<KeywordFIeldName>[nn]V5	Keyword fields for old versions (created with DocuWare up to Version 6.12; not processed with DocuWare Version 7 or higher)

Name	Mandatory	Usage
<FCName>_EVNT	Yes	Workflow Manager: Event sources
<FCName>_HTRY	Yes	Workflow Manager: History
<FCName>_SHOT	Yes	Workflow Manager: Snapshots
<FCName>_STTR	Yes	Workflow Manager: Read status
<FCName>_STTW	Yes	Workflow Manager: Write status
<FCName>_W[nnn]	Per workflow configuration	Workflow Manager: Task list

5.2 Supported storage locations for file cabinets and document trays

DocuWare supports a broad spectrum of storage media for storing documents. This includes local hard disks, (virtual) network storage media, and external storage systems. Which media actually come into use depends on the volume of the documents to be stored and requirements concerning access and safeguarding. As long as conventions for Windows file systems are complied with, the technological basis of these systems is irrelevant. You can also use storage procedures such as RAID systems (RAID = Redundant Array of Independent Disks) or NetApp storage solutions, provided that these can be incorporated into the Windows file system as a virtual system drive.

DocuWare also supports special storage systems. DocuWare delivers software that can be used to incorporate storage systems as DocuWare file deposits in the same way as in a file cabinet, as is possible with Windows file deposits. You can set specific options to determine whether files will be written directly to the target medium, which in the case of WORM for example will ensure maximum security, or whether to go via the intermediary of the virtual disk, because CD/DVDs cannot be burnt in succession.

Hard disks, RAID

In addition to the ability to use individual hard disks, you have the option of combining several hard disks in a "Disk Array." These arrays are the ideal solution for an archiving system where magnetic storage technology does not present a problem. If a RAID is selected, it increases security against loss of data in the event of hard disk failure thanks to redundancy. This way you can swap a hard disk – depending on the RAID level – during running operation.

Directories and drives can be used as document storage. It is irrelevant whether the directories and drives are simple hard disks, virtual disks, RAID networks (hardware or software RAID, storage spaces) or network drives.

For production systems, it is recommended to store the data on redundant storage systems. The use of simple, non-redundant storage systems is not recommended.

If DocuWare is installed distributed over several servers, network storage should be used and SMBv3 should be used as the protocol. SMBv1 should not be used for security reasons.

For installations with a high volume and many users, the database files should be stored on redundant flash memory. The same applies to the full text index files. The storage locations for the documents can be distributed on classic disks even in large installations.

Platform Service and Background Process Service must have read and write access to all storage locations and databases used by DocuWare:

- All accesses to the memory take place under the Windows account that was entered in the Server Setup for the service user. In addition, this user must have full access to the memory to support the full functionality of the product.
The app pools of the Frontend Services (like Platform) access the storage for interactive requests, for example for storing a new document or repeating Intelligent Indexing interactively.
The Windows service of the Backend Services (like Background Process Service) accesses the storage for queued background tasks, like extracting document text and sending documents to Intelligent Indexing in the normal case.
- It does not matter which DocuWare user is served by the services. Access is always done in the context of the service user, both in the Frontend (app pool) as well as in Backend Services (Windows service).

NetApp storage

The NetApp storage solutions are based on NetApp's own operating system and can be integrated in various storage area networks similarly to hard disks (NAS, SAN, iSCSI). They are especially intended to manage large volumes of data and for the long-term archiving of WORM documents. NetApp Storage can be used with DocuWare for storing

documents. Files in NetApp storages cannot be edited and are assigned the "Read Only" attribute. Even if disks on NetApp storage solutions can be set to different types in the DocuWare Administration, we recommended to select the type "WORM" because it is best suited for the NetApp behavior.

EMC Centera (Dell EMC ECS)

EMC Centera is a special content-addressed storage method (CAS) on hard disks, in which the access to stored information is not based on its position on the physical medium, but on the content of the information. This ensures that documents with identical content are physically stored only once. The method allows access to individual documents while ensuring that the stored information remains unalterable.

EMC Centera functionality has now been absorbed into the Dell EMC ECS object storage platform. DocuWare systems already configured for EMC Centera work with DocuWare without additional effort. Administration and document operations remain the same with Dell EMC ECS. DocuWare uses the 64-bit FPLibrary.dll connector. DocuWare supports only the Dell Centera backward compatibility service and no other features provided by Dell with EMC ECS.

5.3 Fulltext index

During a fulltext search, the Fulltext Server lists the occurrences as well as the context strings for the individual search terms in a fulltext index. At the same time, the estimated relevance of a term is evaluated. The result list of a fulltext search is sorted according to this relevance. For more information, see the section.

6 Architecture of the file cabinets

DocuWare stores all documents in file cabinets where they can be saved long-term. Each file cabinet is assigned to a DocuWare organization. Users access documents in the DocuWare interface using a search query in the respective file cabinet or in multiple file cabinets.

Every organization has at least one file cabinet for storing documents. Under file cabinet settings, you can determine:

- General file cabinet characteristics, e.g. name, etc.
- The database to be used for the documents' index information and any additional database-related settings
- The storage location to be used for the documents and (if applicable) their subdivision into logical disks with associated capacity limits
- File cabinet fields / index fields
- Access rights and file cabinet profiles for the archive or for individual fields
- The user dialogs for file storage, searches, results list, and folder structures
- Additional functionalities, e.g. availability of a fulltext index, type, and extent of the stamps that are available for document processing

6.1 The "disk" concept

The documents of a file cabinet are stored on "DocuWare disks." DocuWare disks are generally directories in the file cabinet identified by a name that DocuWare has assigned them. The subdivision of the file cabinet into logical disks is a means of organizing the storage media.

You can transfer these logical disks to another medium at any time you choose, for example when they reach a certain size. Document management with DocuWare has the advantage that documents can be swapped out either by pre-defined rules or automatically. DocuWare offers features for conveniently automating the corresponding steps.

The concept of logical disks and the open file structure gives the administrator a high degree of transparency and flexibility when managing the DocuWare system.

6.2 Document structure

A document in DocuWare can consist of one or more files. In addition, a document can be composed of a combination of various file formats, e.g. PDF/A, PDF, MS Excel, for instance if DocuWare accepts an email with several attachments as an associated document.

Again, each file comprises one or more pages:
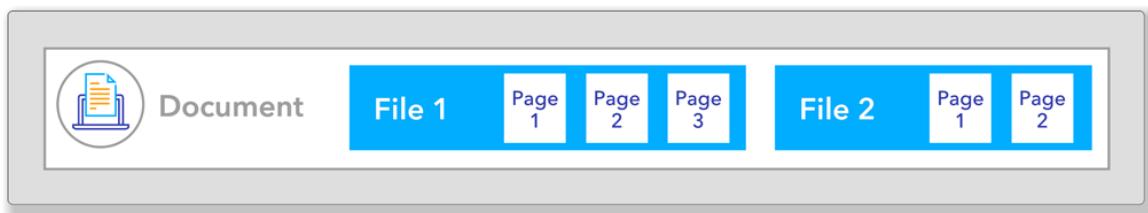
The structure of a document that contains two files: one with three and one with two pages

Example 1:
A 3-page paper document that was scanned into DocuWare consists of a 3-page PDF/A file.

Example 2 (see graphic above):
For a document, a 3-page PDF/A file generated by DocuWare and a 2-page Word file are clipped together in the document tray.

Example 3:
For one document, a PDF/A file generated by DocuWare, a 3-page Word file and a 2-page PDF file are clipped together in the tray. The document then consists of three files:
1. File of the document: PDF/A file with page 1
2. File of the document: Word file with pages 1, 2, and 3
3. File of the document: PDF file with pages 1 and 2

Annotations can be made on every page of a file within a document, on multiple annotation levels if required. Annotations are stored with their characteristics and additional attributes and reproduced for the duration by the DocuWare Viewer.

Each document in DocuWare can have a maximum of 999 document files.

Documents scanned and printed with DocuWare applications are stored in the DocuWare file cabinets as PDF/A files. All other documents that are read into DocuWare, such as PDF and MS Office files, are stored in their original formats.

All additional metadata such as stamps, index data, and annotations are automatically stored in the file cabinet database. Copies of these data can optionally be saved in a ZIP-based file format (extension.DWX) in the file cabinet location. They are updated asynchronously, not as part of the document change. After upgrading to DocuWare Version 7, this redundant storage option for on-premises is set to ON. This also applies to new file cabinets.

A command line tool is available for restoring database entries from the file cabinet location.

Each document file has a unique name (GUID).

When a document file is updated, the file in the memory is not overwritten. Instead, a new unique name (GUID) is generated. After the new file is created, the old one is deleted.

The file structure of documents stored with DocuWare Version 6.x or earlier is not changed and their header files are still used. If such a document or its index entries are changed in DocuWare from Version 7 (e.g. if a comment is added in the viewer), the document's metadata is copied to the database and the header file existing in previous DocuWare versions is deleted. When a document file is updated, it uses the new file naming convention (GUID).

6.3 File structure

With DocuWare version 7, the file structure of the documents has changed. If you were already using DocuWare version 6.12 or earlier and are now working with version 7 or higher, your documents are stored in different structures.

Documents that were stored before version 7 will only be transferred to the new file structure if they are edited or their index entries are changed.

	DocuWare Version 7 and higher	Up to DocuWare Version 6.12
Document file name	GUID	Continuous number
Index data and annotations	DWX file (optional)	Header file

From DocuWare Version 7, the (double) storage of additional metadata in a DWX file per document file is optional. If it is not used, this can result in a performance gain.

Documents stored with DocuWare version 7 or higher

All additional metadata such as index data, stamps, and annotations are automatically stored in the file cabinet database.

Copies of these data can optionally be saved in a ZIP-based file format (extension.DWX) in the file cabinet location. They are updated asynchronously, not as part of the document change. This redundant storage option is set to ON by default, which also applies to new file cabinets.

To restore database entries from the file cabinet location, a command line tool is available.

The index data and annotations of documents are stored twice in DocuWare Version 7 or higher: in the database and in the document memory in a DWX file. This guarantees the greatest possible amount of security, as in the event of a failure the documents and their index data will still be accessible without backing up.

DWX file

A metadata file in DWX format can be created for each stored document. To do this, the option *Index data backup* in the storage location for the file cabinet must be enabled in the DocuWare configuration under *File Cabinets*.

For each file that is part of a DocuWare document, the DWX file contains a separate section. Within the DWX file, the main elements are:

- Document description: Information relating to the whole document, e.g. signatures, versions, and encryption

- Meta data (Document meta data):
  - System properties: All described data required by DocuWare for management from the system's point of view e.g. DWDOCID
  - User data All described data required from the user's point of view, e.g. index data, field properties
  - Store Properties: Information about the history and the logical file cabinet of the file.
  - Application Properties: Information required for integration with other applications.

- Page information: Page-specific additions, e.g. text annotations, stamps, etc.

All data are identical to the data in the database and are therefore stored twice. This guarantees the greatest possible amount of security, as in the event of a failure the documents and all their information will still be accessible without backing up. However, restoring can take a lot of time and therefore is not a replacement for conventional database backup.

The DWX files are created asynchronously to the document operations in the DocuWare system. This means that the processes in DocuWare (e.g. storing a document and creating the DWX file) do not take place at the same time, but independently of each other.

## Documents stored with DocuWare version 6.12 or earlier

The structure of documents stored with DocuWare version 6.12 or earlier (and not processed with DocuWare version 7 or higher) is as follows.

Under the file directory allocated by the administrator, the DocuWare directory is addressed by file cabinet names, disk numbers, three directory levels, and the document level. A maximum of around 2.15 billion documents may be stored in one file cabinet.

DocuWare creates a separate directory for each file cabinet in the selected storage location on each disk. Each file cabinet directory is named with *<file cabinet name>.<disk number>*. Here, the file cabinet name has a maximum of 8 characters and the disk number is always 6 digits. The first disk of the document pool file cabinet is thus called *Document.000001*.

On the three underlying directory levels, each directory has a 3-digit sequential number, starting with 000. On the first of the three levels, a maximum of 128 folders are possible (000 to 127), while the second and third levels each have a maximum of 256 (000 to 255).

The document directories can be found under these three directory levels. If for example you allocate the directory D:\DOCS and the name SALE to the file cabinet, the documents of the first disk will reside in the following subdirectory:
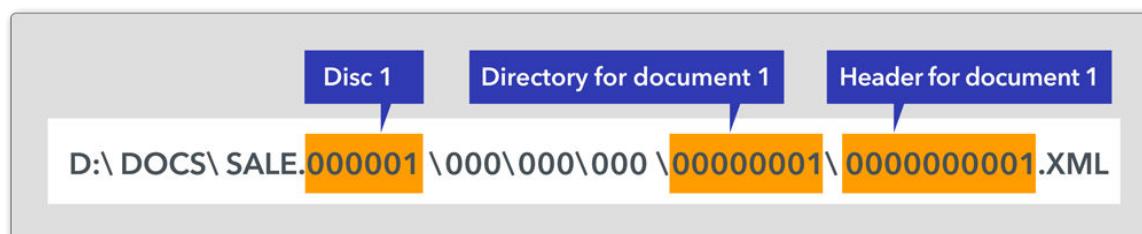
Each of these document directories contains all pages (files) of a document, and the header file in XML format. The document directories are given the name of the DocID (a 10-digit document number which is unique within the file cabinet), which is also sequential (from 0000000001 to (2 high 31)-1 = 2,147,483,647 ~ 2.15b). With the DocID, each document receives a unique sequential number which increases automatically by 1 for each new document.

The header file is always called *<Document number>*.XML and has no size restriction.

The document files are always called F (File), followed by a sequential number starting with 0, and the file extension (e.g. docx, xlsx, pdf), so for example *F0.doc*. A document that consists of several parts would therefore be represented like this:

\00000001\ 0000000001.XML
\ F0.docx
\ F1.xlsx
\ F2.pdf
\ F3.pdf

You can create up to 999,999 DocuWare disks, though not within one directory, since Windows limits the number of sub-directories within each directory.

The example below shows the file structure within a DocuWare file cabinet. Here it is assumed that all documents are stored on a single DocuWare disk.

Example file structure of a DocuWare file cabinet on the file system level

D:\File_cabinets\Document.000001\
D:\File_cabinets\Document.000001\000\
D:\File_cabinets\Document.000001\000\000\
D:\File_cabinets\Document.000001\000\000\000\
D:\File_cabinets\Document.000001\000\000\000\0000000001\ (first document in file cabinet)
D:\File_cabinets\Document.000001\000\000\000\0000000001\0000000001.XML
D:\File_cabinets\Document.000001\000\000\000\0000000001\F0.doc
D:\File_cabinets\Document.000001\000\000\000\0000000001\F1.xls
D:\File_cabinets\Document.000001\000\000\000\0000000001\F2.pdf
...
D:\File_cabinets\Document.000001\000\000\000\0000000002\ (second document in file cabinet)
D:\File_cabinets\Document.000001\000\000\000\0000000002\0000000002.XML
D:\File_cabinets\Document.000001\000\000\000\0000000002\F0.xls
...
...
D:\File_cabinets\Document.000001\000\000\000\0000000256\ (last document in 000\000\000)
D:\File_cabinets\Document.000001\000\000\000\0000000256\0000000256.XML
D:\File_cabinets\Document.000001\000\000\000\0000000256\F0.pdf
...
D:\File_cabinets\Document.000001\000\000\001\
D:\File_cabinets\Document.000001\000\000\001\0000000257\ (first document in 000\000\001)
D:\File_cabinets\Document.000001\000\000\001\0000000257\0000000257.XML

D:\File_cabinets\Document.000001\000\000\001\0000000257\F0.doc

...

...

D:\File_cabinets\Document.000001\000\000\001\0000000511\ (last document in 000\000\001)

...

...

D:\File_cabinets\Document.000001\000\000\002\

D:\File_cabinets\Document.000001\000\000\002\0000000512\ (first document in 000\000\002)

...

...

D:\File_cabinets\Document.000001\000\000\255\

D:\File_cabinets\Document.000001\000\000\255\0000065535\ (last document in 000\000\255)

...

D:\File_cabinets\Document.000001\000\001\000\

D:\File_cabinets\Document.000001\000\001\000\0000065536\ (first document in 000\001\000)

...

...

D:\File_cabinets\Document.000001\000\255\255\

D:\File_cabinets\Document.000001\000\255\255\0016777215\ (last document in 000\255\255)

...

...

D:\File_cabinets\Document.000001\001\000\000\

D:\File_cabinets\Document.000001\001\000\000\0016777216\ (first document in 001\000\000)

...

...

D:\File_cabinets\Document.000001\127\255\255\

D:\File_cabinets\Document.000001\127\255\255\2147483647\ (last document in file cabinet)

Header File

Every document stored with a DocuWare Version up to 6.12 and not modified after storage has a header file in XML format. The header contains the meta and index data assigned for the document, as well as annotations, stamps, signatures, etc.

The index data are thus duplicated: they appear once in the database and once in the document header file. This guarantees the greatest possible amount of security, as in the event of a failure the documents and their index data will still be accessible without backing up. However, this process can take a lot of time and therefore does not represent a replacement for conventional data backup procedures.

For each file that is part of a DocuWare document the header file contains a separate section.

Within the header file, the elements "Document description," "meta data," and "page information" can be fundamentally distinguished:

- Document description:
  Information relating to the whole document, such as signatures and encryption

- Meta data (Document meta data)
  - All described data required by DocuWare for management from the system's point of view (system properties), e.g. the Document ID. This data is identical to the index data which the database maintains for every file.
  - All described data on the document required from the user's point of view: index data, field properties
  - Store Properties contains information about the history and the logical file cabinet of the file.
  - Application Properties are information that is required for integration with other applications, for example with SAP.

- Page descriptions:
  Page-specific information, such as written or spoken annotations, levels, stamps, etc.

Write Access Conversion

The file structure of documents stored with DocuWare Version 6.x or earlier is not changed and their header files are still used. If such a document is changed in DocuWare Version 7 or higher (e.g. if a comment is added in the viewer), the document's metadata is copied to the database and the header file is deleted. When a document file is updated, it uses the new file naming convention (GUID).

6.4 Fulltext functionality

DocuWare provides its own fulltext functionality, which allows you to run an effective search in the fulltext of documents and their index entries. The application is optional. The fulltext functionality operates as follows.

The Background Process Service (page 24) extracts text shots from the document and stores these in the data store. The search terms of a document page and their position is marked in the text shots. This allows the results to be marked in the document.

At the same time, the Backgournd Process Service transfers the text shots to the Fulltext Server. This stores the text shots again in catalog files (index files) and uses them for the search requests. The catalog files are created per DocuWare file cabinet. They are stored on the computer where the Fulltext Server is installed by default.

If an error occurs during indexing for the fulltext search, for example if a server is not accessible, the indexing of these documents is automatically repeated at a later time.

6.5 Special characteristics of document trays

The essential application scenario for document trays is the viewing of new documents and their processing before archiving. For this reason, new documents are often first imported into a document tray. This is also where the documents are evaluated using Intelligent Indexing. In addition, a document tray can be used for copies of documents that have already been archived.

Document trays are technically structured like archives and the data is stored in a simplified format. Unlike archives, however, document trays do not have a structured search or a full-text search, nor do they have a rights concept. They are usually configured so that only one user has access to them. In comparison to the analog world, they correspond to a filing basket for incoming documents on the desk.

In principle, it is also possible to give multiple users access to a document tray. However, it is important to note that no logging takes place in the document tray and no more precise assignment of rights is possible. Anyone who has access to a document tray may perform any action there. An individual action cannot be assigned to a specific user in retrospect.

6.6 File cabinet synchronization

Two file cabinets can be synchronized with each other using DocuWare (documents and database). This synchronization is managed in the DocuWare configuration. More information can be found here.

In synchronization, both file cabinets to be synchronized are equivalent partners. The two documents are matched using globally unique GUIDs. One of the file cabinets to be synchronized must be located in the local system, the other one can be located in the same or in another DocuWare system.

The comparison between the file cabinets simply takes place in a text field column and so it also only takes a short amount of time. The synchronization process is executed through Cloud-compatible HTTPS by the Background Process Service.

6.7 Autonomous file cabinets - DocuWare Request

Autonomous file cabinets make it possible to copy a (sub)archive to an external mass storage medium. The DocuWare Request component makes available complete file cabinets or selected documents available on external media (USB stick, CD/DVD, etc.) as a ZIP file.

A request file cabinet is an independent component that can operate without installing DocuWare. It comprises the document, an SQLite database, and a QtWebKit browser. The browser offers a search function and a PDF viewer.

7 Communication technologies

The DocuWare System components communicate with each other according to the latest standards. The following sections tell you about the protocols used and which individual components exchange information about which standards.

7.1 Protocols

DocuWare uses the following TCP-based protocols for communication among the individual software components.

- **HTTPS (transmission of HTML or binary data)**
  HTTP is unencrypted by default. To communicate securely over the internet, you must encrypt it with TLS/SSL (HTTPS). To do so, a certificate on the server with the IIS (Internet Information Services) is required.

- **HTTPS with REST (Representational State Transfer)**
  In particular, the DocuWare Platform Service is fully REST-based.

- **HTTPS with SOAP (Simple Object Access Protocol)**
  SOAP is for sharing messages based on the XML Information Set. In the DocuWare System, SOAP is used by various Frontend Services for communication with client applications.
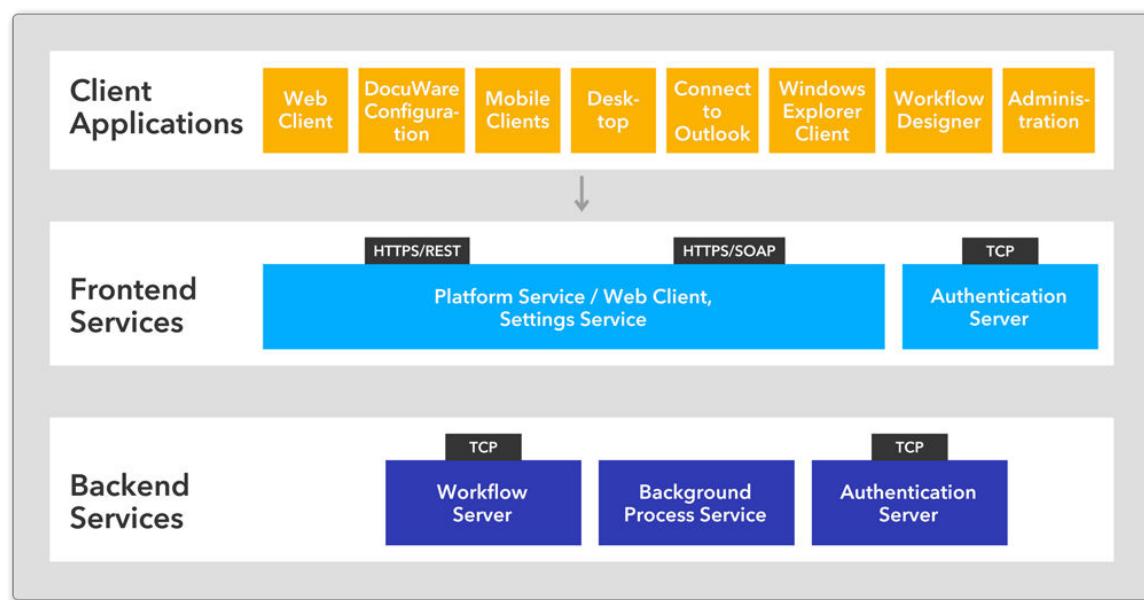
Communication between the layers of client applications, Frontend Services, and Backend Services

7.2 Client-server communication

The matrix shows you which server communicates with which client applications. The protocols used are indicated in brackets, and the ports used are indicated in a separate line. Standard ports are used for all client applications. The only exception is DocuWare Administration.

CLIENT APPLICATIONS	SERVER				
	8090/8091	80/443	80/443	9000	9002
	Local Desktop Service (HTTPS)	Platform Service / Web Client (HTTPS)	Settings Service / DocuWare Configuration (HTTPS)	Authentication Server (TCP)	Workflow Server (TCP)
Web Client	X	X			
DocuWare Configuration	X	X	X		
Scan			X		
Import			X		
Export		X	X		
Printer			X		
Smart Connect		X	X		
Edit & Send		X			
Desktop Service		X	X		
Connect to Outlook		X	X		
Windows Explorer Client		X			
Workflow Designer		X	X		
DocuWare Administration				X	X
Index Cleaner		X			
Mobile Client		X			
PaperScan Client		X			

7.3 Server-server communication

In the matrix you can see which servers communicate with each other through which protocols, and which databases they access. If you use several server machines for the Frontend Services and Backend Services, please make sure that all necessary communication ports are available for other server machines.

| SERVER	SERVER							DATABASES			
	Local Desktop Service (HTTPS) 8090/8091	Platform Service / Web Client (HTTPS) 80/443	Settings Service / DocuWare Configuration (HTTPS) 80/443	Authentication Server (TCP) 9000	Workflow Server (TCP) 9002	Fulltext Server (HTTP) 9012	Intelligent Indexing (HTTPS) 443	DWDATA	DWSYSTEM	DWNOTIFICATION	DWWORKFLOWENGINE
Platform Service / Web Client				X		X	X	X	X	X	X
Settings Service				X	X	X	X	X	X	X	
Identity Service		X	X	X				X	X		
Authentication Server								X	X		
Workflow Server		X		X					X		
Notification Server				X					X	X	
Connect to SharePoint		X	X								
Connect to DATEV		X									
Connect to SAP		X		X					X		
Background Process Service		X	X			X	X	X	X	X	X
Client Setup/DocuWare Update		X									
External DocuWare system via synchronization (synchronization version 2)		X									

7.4 Message bus

The Message Bus is the central platform for exchanging messages between the Web Servers and most backend servers. It uses the Microsoft Message Queuing (MSMQ) protocol. The Message Bus is responsible for sharing changes between server components.

The Message Bus follows the publish-subscribe pattern. It implements a fire-and-forget pattern that, for reasons of speed, requires the message to be delivered directly or it will be lost. One typical application would be notification about newly arrived documents or modified settings.

The messages are always sent to all subscribers. The subscribers decide whether they want to reuse the messages or not.

The Message Bus is managed in the management console on the "Message Queuing" node and can be installed multiple times in one DocuWare system.
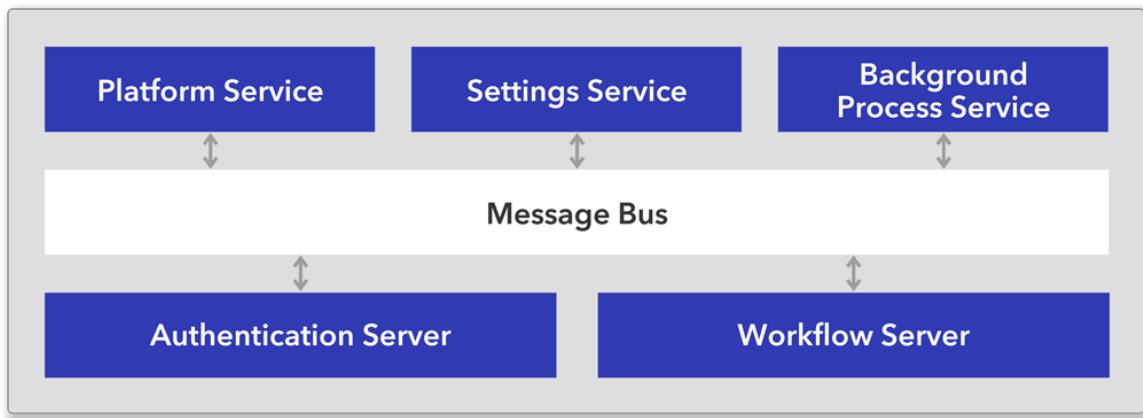
The Message Bus is used for communication between the Frontend Services and a part of the Backend Services.

The DocuWare setup installs the Windows functions "Microsoft Message Queue" and "Multicast support". Multicast is not supported by all virtualized networks but it is required for DocuWare Multi-server installations because messages need to be exchanged between servers. Multicast support is not required for installations on a single server.

If DocuWare is to be installed on Microsoft Azure, DocuWare will be happy to assist you with the setup. For more information, see the DocuWare Knowledge Base or contact the DocuWare Support.

8 External access

To access your DocuWare system externally, for example via the Internet, you should note of the following points. This also applies if you want to use public forms with DocuWare Forms.

Required ports

If you set up external access to your DocuWare system, only the ports of the Web Client (by default port 80 or 443) need to be approved in the firewall of your DocuWare system. More information about ports can also be found in the "Server-Server Communication" matrix (page 45) in the "Communication Technologies" chapter.

HTTPS (TLS/SSL)

The DocuWare Web Client and the DocuWare Desktop Apps support all current HTTPS. To configure the DocuWare Web components for HTTPS (TLS/SSL), you must carry out the following steps in IIS manager:

- Import the certificate or certificates ("server certificate", "Import" action)
- Adapt the website link and make it accessible via TLS
- Remove the HTTP link for security reasons

If you use a self-signed certificate, you must also ensure that your certification center is defined as a trusted certification center on all clients. To do so, import the certificate into the certificate store of all computer and user accounts in your domain, for example using a Group Policy Object (GPO) from Microsoft.

Split DNS

To be able to use the Identity Service of DocuWare, you must have set up Split DNS. This is the only way to resolve the host name to an IP address in the internal network and another IP address in the external network and to avoid certificate error messages.

Demilitarized Zone (DMZ)

The DocuWare Web components connect directly with the database. It is therefore not recommended to install the DocuWare Platform Service in a DMZ, for example. All components, including the Web components, should only be installed within the LAN. The Web Server in the DMZ should route requests accordingly to the internal Web Server, for example, using Application Request Routing (ARR). More information about ARR can be found in the Load Balancing (page 60) section.

DocuWare

Internet	Data Center	DMZ		DocuWare Components in LAN

IIS with ARR

Firewall

Firewall
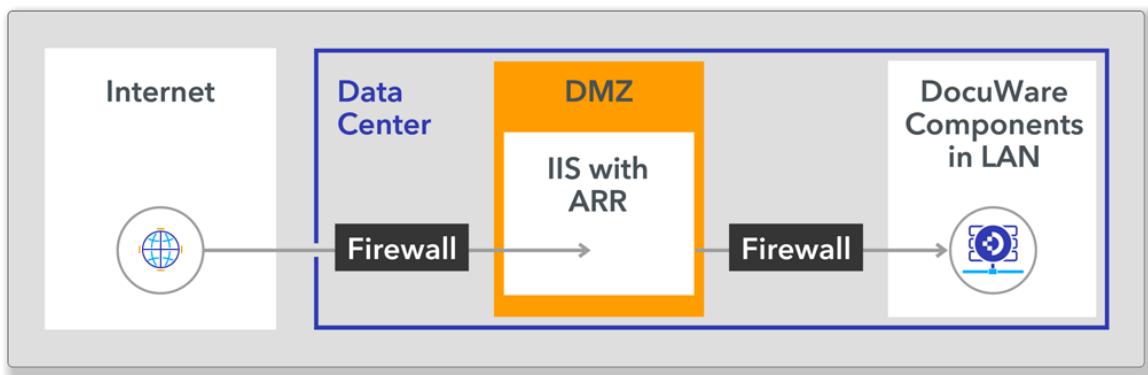
9   Additional components

9.1 Intelligent Indexing

Intelligent Indexing is an application that automatically detects the most important meta data from your scanned documents and suggests them as index entries. At the same time, the system learns with each process: If the system is familiar with a document type, suggested index words are automatically and reliably assigned. The user only has to confirm the suggestions or improve them. These confirmations or corrections automatically feed into the self-learning system, which can use this feedback to independently assign the index words after a brief learning period.

There are two different options for using Intelligent Indexing:

- **Intelligent Indexing as a cloud service**
  The Intelligent Indexing Service is a web-based service that is installed on Microsoft Azure and hosted by DocuWare. For more information, see the White Paper Intelligent Indexing.

- **Intelligent Indexing as an on-premises module**
  You can also use Intelligent Indexing as a local application that is part of your DocuWare system.

9.2 Cloud service: Signature Service

For on-premises systems, the Signature Service is available as an add-on module that runs in the DocuWare Cloud environment.

With the Signature Service you ensure that your documents are signed in a workflow via a signature service provider.

For this, you need a license for the use of Workflow Manager. In addition, the signature certificates and a signature quota must be purchased. To use the Signature Service, an additional client license is required so that the service can log in to DocuWare.

The service is hosted by DocuWare. For more information, including on licensing and Signature service providers see the White Paper Electronic signatures with DocuWare.

10   Connectors

The web-based connectors connect the applications Connect to SAP, Version 2, and Connect to DATEV (German market only) with DocuWare.

10.1 Connect to SAP, Version 2

Connect to SAP, Version 2 extends SAP with functionalities for archiving documents and data, and uses DocuWare interfaces.

The SAP component ArchiveLink 4.7 is an OLE component facilitating scanning, viewing, and printing, as well as storing documents directly from the SAP interface. SAP controls the DocuWare Viewer using OLE automation to display the scanned document.

It works with extension modules developed by Varelmann Beratungsgesellschaft mbH. The connector module is not installed through DocuWare setup, but made available by DocuWare Professional Services as a separate application.
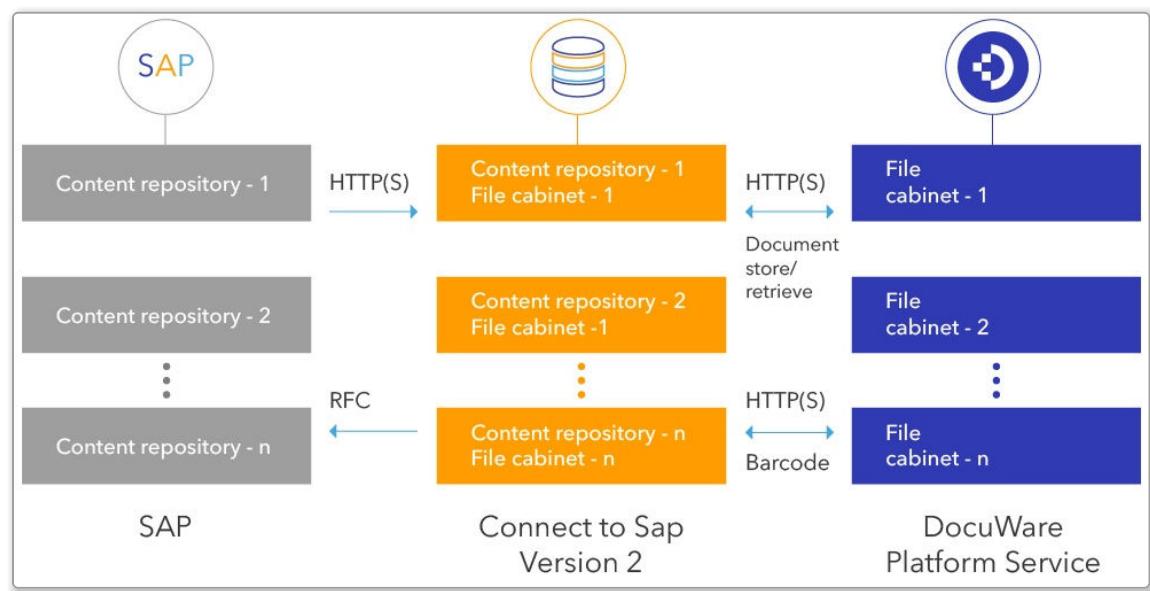
10.2 Connect to DATEV

With this component consisting of two different interfaces you extend your DATEV system with DocuWare. Connect to DATEV is only available for the German market.

- **Connect to DATEV Rechnungswesen (ReWe)**
  The interface automatically transfers the data entered in DocuWare. This happens during the invoicing process to DATEV ReWe as a posting batch via DATEVconnect or in EXTF format.

- **Connect to DATEV Unternehmen Online (DUO)**
  Using this interface, you upload the invoices scanned and archived in DocuWare to the DUO Web Portal

The Connect to DATEV Server is provided by DocuWare Professional Services.

11 Integration

DocuWare sets up its servers, web applications, and databases on the company's infrastructure. Software services take on different user administration tasks within DocuWare, from searching and document management to accessing databases and the file system. Communication with the DocuWare system is primarily conducted using the Platform Service. HTTPS-capable devices such as network printers and smartphones can also be used to access databases, servers, and programmed third-party applications via the Platform Service.

The individual integration options make various functions available for archiving, searching, synchronization, and importing. There are generally three integration options:

Generic or universal integration

This group includes integration options for multiple programs or device types:

- DocuWare Printer (virtual printer driver)
- Monitored folder
- Smart Connect
- Autoindex (database synchronization)
- External select lists
- General Email
- DocuWare Scan app
- URL integration
- Log in to DocuWare using:
  - Microsoft Active Directory (NTLM)
  - Microsoft Azure Active Directory
  - Microsoft Active Directory Federations Services 4.0 (OpenID Connect)
- Encryption of the entire URL with passphrase with optional noise for highest security

Connectors

They connect a specific software or specific device to DocuWare and enhance these external components with numerous document management functions. These connectors only work in combination with this one external component.

- Windows Explorer Client
- Local Data Connector (connecting to external database)
- Connect to Outlook
- Connect to DATEV Rechnungswesen (particularly for the German market)
- Connect to DATEV Unternehmen online (particularly for the German market)
- Connect to SAP, Version 2

For more information, see the "Connectors" chapter.

Programming

Programming can be used to integrate individual DocuWare resources and create individual programs that provide extended DocuWare functionality in any third-party applications, via:

- URL integration
- Platform/Platform .NET API
- Validating index entries and form entries

The DocuWare "Integration" White Paper provides detailed information about all options for the web integration of applications in DocuWare.

12 Setup

The setup of the individual DocuWare components is split into Server Setup and Client Setup. In addition to the Client Setup, DocuWare Update is available to update client applications.

12.1 Server setup

With the server setup, you install, update, and uninstall all frontend services and backend services.

The Connect to SAP server is not installed through DocuWare setup, but made available by DocuWare Professional Services as a separate application.

DocuWare Administration can be installed with both the server setup and the client setup. To install the administrative Power Tools as client applications, you use the server setup.

The server setup creates the databases and updates them during an upgrade. It also creates configuration files for individual components and a machine-wide configuration file (storage location: %programdata%/docuware/serverconfig/dwmachine.config).

12.2 Client setup and DocuWare Update

Use the Client Setup to install, update, and uninstall all applications required on the client side. The applications in the Client Setup are not available via the DocuWare Setup except for DocuWare Administration.

The Client Setup uses Windows Installer. The client components can be installed via Client Setup.

The following components are installed with the Client Setup:

- DocuWare Administration
  DocuWare Administration can be used by regular users too, not just by administrators. It is therefore the only component available both in Client Setup and DocuWare Server Setup.
- User synchronization, Version 2
- Connect to Outlook
- DocuWare Desktop Apps
- DocuWare Update
- DocuWare Export
- Upload Service
- Windows Explorer Client (32- and 64-bit)
- Workflow Designer

DocuWare Update

DocuWare Update automatically checks whether updates or hotfixes are available for the applications installed on a client and reports the result to the user. If required, the client setup opens so the user can install updated versions. In the update, the version numbers are compared with the locally installed version numbers.

Command-line interface for software distribution

More information about this tool (Desktop Apps Silent Installation/Upgrade) can be found here.

13 Scalability

The DocuWare system is highly scalable and can be tailored to meet a wide range of requirements. For smaller application scenarios, DocuWare can be installed as a standalone system with all servers, databases and storage locations on a single computer. In contrast, for very complex application scenarios, the entire system can be duplicated except for certain areas.

The following factors play a role in determining which form the DocuWare system should be scaled in:

- Number of simultaneously active users
- Availability requirements
- Number of business processes covered by DocuWare and of document types
- Number of "living documents", i.e. documents that are simultaneously used in workflows

The extent to which the DocuWare system scaling and load balancing measures described in this chapter can be realized depends on the server edition bought.

13.1 Scaling forms of the system

There are five basic scaling forms. When installing your DocuWare system, it is best to use one of these forms as a guide. Depending on requirements and licenses bought, there may be differences in each individual installation.

Depending on the extent of use, we recommend one of the following five scaling forms (XS-XL).

	XS	S	M	L	XL
Users active at the same time: up to 50	Yes	Yes			
Users active at the same time: up to 250		Yes	Yes		
Users active at the same time: up to 500			Yes	Yes	
Users active at the same time: up to 1000				Yes	Yes
Users active at the same time: more than 1000					Yes
Fail Safety			Yes	Yes	Yes

Scaling form XS: 1 server

In this simplest form of scaling, the entire DocuWare system is installed on one server with the frontend services, backend services, databases, and storage locations, as well as the fulltext functionality.

You need one server license (Business, Professional or Enterprise).
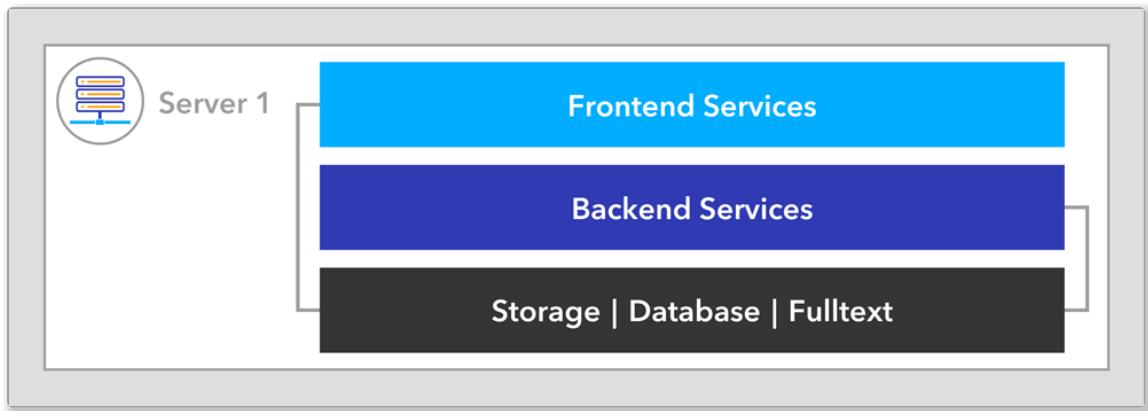
DocuWare system on a server

Scaling form S: 2 servers

In this scaling form, the DocuWare system is installed on two different servers. The frontend services and backend services are installed on one server, while the databases, storage locations, and fulltext functionality are installed on the other one.

You need a server license (Business, Professional or Enterprise).
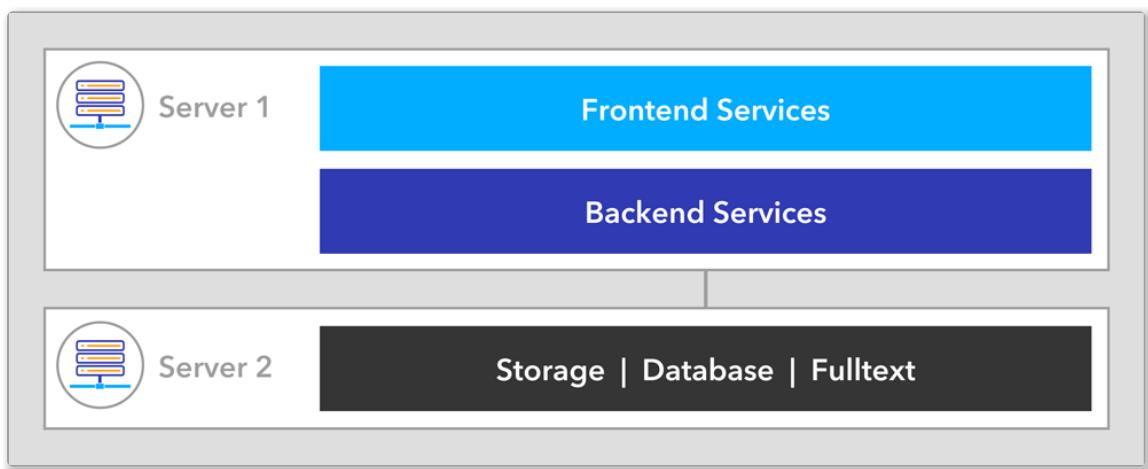
DocuWare systems on two servers: Databases, fulltext functionality, and storage locations are outsourced

Scaling form M: 3 servers

With this scaling form, the frontend services and the backend services are each installed once on Server 1 and Server 2. Servers 1 and 2 can therefore be accessed in the same way.

The databases, the storage locations, and the full text functionality are installed on Server 3.

A load balancer is connected upstream of the complete DocuWare system. This can be installed on separate machines or on the front-end machines Server 1 and Server 2. The balancing can take place on Layer 7 (e.g. through Application Request Routing, ARR) or on Layer 4 (e.g. through Network Load Balancing Services, NLBS).

To ensure that Servers 1-3 work independently of each other and can also be restarted, all Authentication Servers work in "Local Mode." There is no further machine-to-machine communication.

To enable Local Mode, in the configuration file of each Authentication Server, add the value true to the element AuthenticationServerSettings as follows:

```
<DWConfig>
<AuthenticationServerSettings LocalServersOnly="true" />
</DWConfig>
```

Server 1 and Server 2 handle both user requests and background tasks. Therefore, the processing of user requests may be delayed if there are many background tasks (e.g. many incoming documents, rebuilding the full text).

For this scaling form you need either an ENTERPRISE server license or two PROFESSIONAL server licenses.
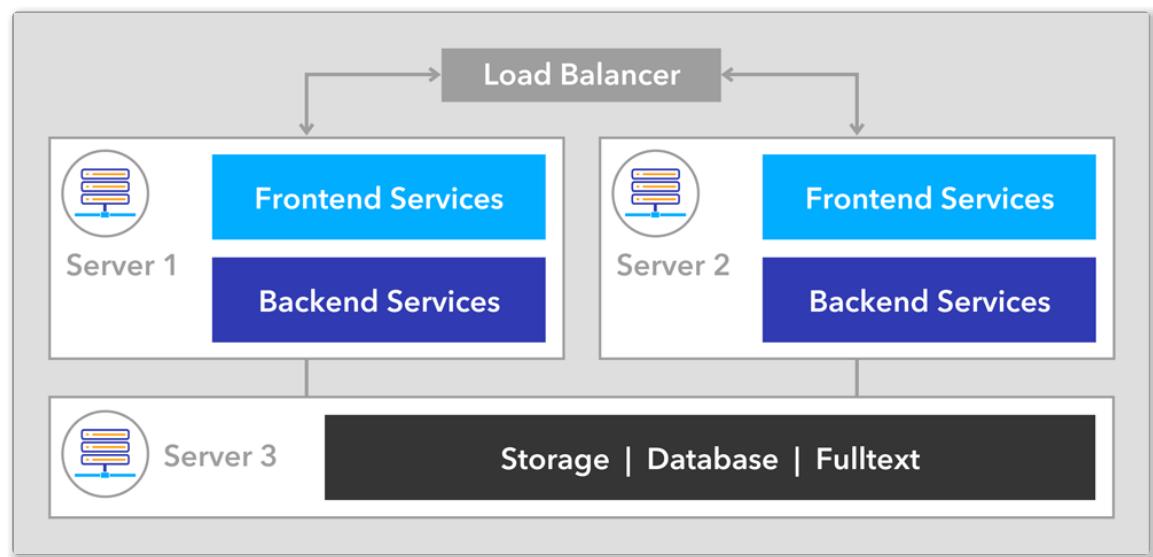
This scaling form requires three servers and a load balancer.

Scaling Form L: 5 servers

With this scaling form, the frontend services are installed once each on Server 1 and Server 2, and the backend services are installed once each on Server 3 and Server 4. Server 1 to Server 4 can therefore be accessed in the same way.

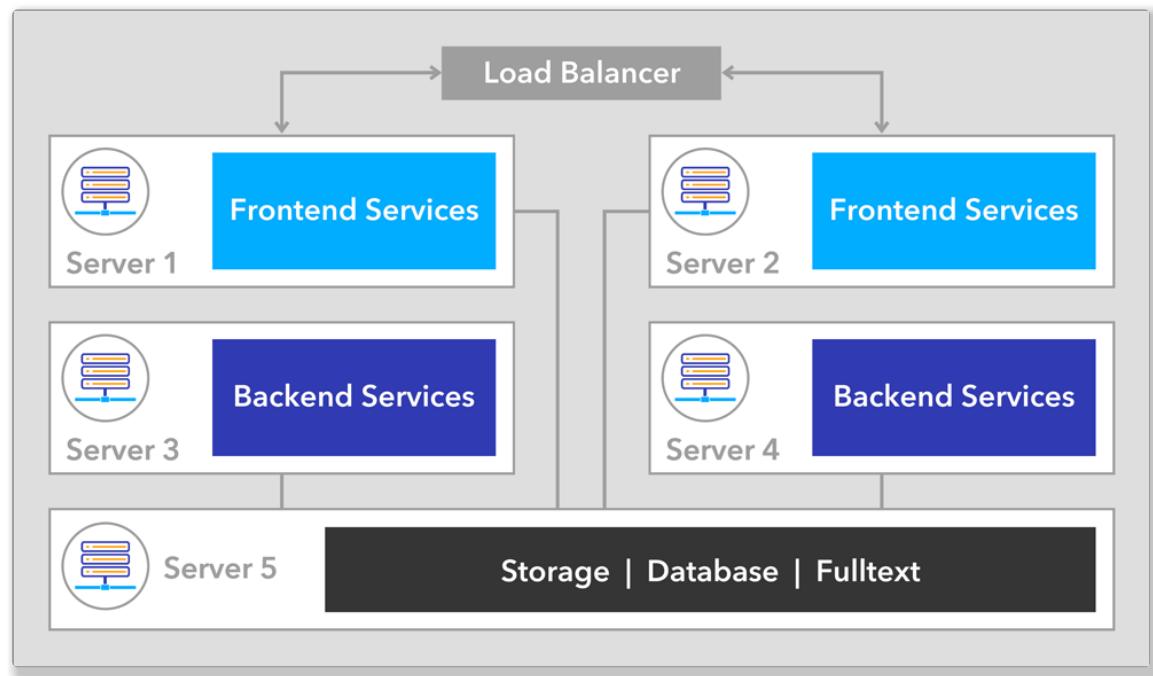The databases, the storage locations, and the full text functionality are installed on Server 5.

A load balancer is connected upstream of the complete DocuWare system. This can be installed on separate machines or also on the frontend machines Server 1 and Server 2. The balancing can take place on Layer 7 (e.g. through Application Request Routing, ARR) or on Layer 4 (e.g. through Network Load Balancing Services, NLBS).

To ensure that Servers 1-5 work independently of each other and can also be restarted, all Authentication Servers work in "Local Mode." There is no further inter-machine communication.

To enable Local Mode, in the configuration file of each Authentication Server, add the value "true" to the element AuthenticationServerSettings as follows:

```
<DWConfig>
<AuthenticationServerSettings LocalServersOnly="true" />
</DWConfig>
```

For this scaling form you need either an ENTERPRISE server license or two PROFESSIONAL server licenses.

Scaling Form XL: 9 servers

With this scaling form, the frontend services are installed once on each of four servers (1-4).

On four additional servers (5-8) the backend services are installed once each.

Servers 1 to 8 can therefore be accessed in the same way.

The databases, the storage locations, and the full text functionality are installed on Server 9.

A load balancer is connected upstream of the complete DocuWare system. This can be installed on separate machines or also on the frontend servers 1-4. The balancing can take place on Layer 7 (e.g. through Application Request Routing, ARR) or on Layer 4 (e.g. through Network Load Balancing Services, NLBS).

To ensure that Servers 1-8 work independently of each other and can also be restarted, all Authentication Servers work in "Local Mode." There is no further machine-to-machine communication.

To enable Local Mode, in the configuration file of each Authentication Server, add the value true to the element AuthenticationServerSettings as follows:

```
<DWConfig>
<AuthenticationServerSettings LocalServersOnly="true" />
</DWConfig>
```

For this scaling form you need either two ENTERPRISE server licenses or four PROFESSIONAL server licenses.
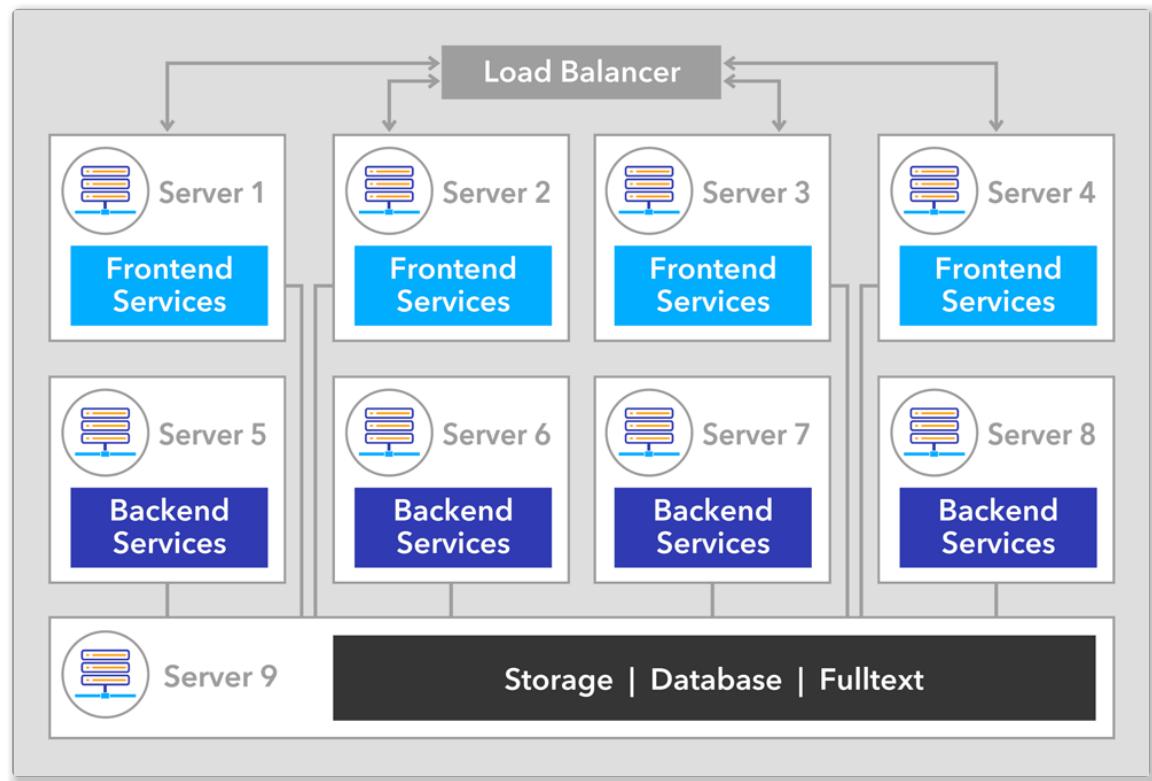
This scaling form requires nine servers and a load balancer.

13.2 Data management

Databases, fulltext functionality and storage should be scaled by measures recommended by the particular producer. For selecting the database server see section Supported Database Systems (page 28).

13.3 Load balancing

Once you have installed your DocuWare system based on one of the five recommended scaling formats, it may make sense to take further individual scaling measures in certain cases where there is a heavy load. However, you should always pay attention to the root cause of the load: Three different scenarios that address the most important causes are described below.

Three different technologies can be implemented for load balancing:

- Application Request Routing (ARR): this is an Internet Information Services (IIS) module from Microsoft that is installed separately upstream from the DocuWare system. The ARR module acts as a reverse proxy and distributes HTTP requests to underlying application servers. You can <u>download</u> the module from the Microsoft website.
- Network Load Balancing Services (NLBS): NLBS is a component of Windows Server. The idea is that various servers form a cluster. Machines acting as load balancers distribute the requests to the application servers based on TCP. You can find more information on the <u>Microsoft website</u>.
- Hardware Load Balancer

In all three load balancing options, users should always be routed to the same server for performance reasons.

Scenario 1

Many DocuWare users are accessing the system at the same time, e.g. conducting searches or processing tasks.

In this case, you need a scaling form with more frontend services and you should increase the number of machines.

Scenario 2

Many predefined or some very extensive workflows run simultaneously, or many documents that need to go through the fulltext are being filed at the same time. This may apply to a system migration, for example.

In this case, you need more backend services and the workflow server should be installed multiple times. The workflows must be explicitly assigned to different Workflow Servers in order to distribute the load. (These are workflows specified in DocuWare Administration, not workflows from the Workflow Manager module.) See also the <u>notes on fail-safety</u> (page 61).

13.4 Availability and fail-safety

Most components can be installed multiple times in each DocuWare system for greater fail-safety.

The tasks of the Workflow Server are an exception: user synchronization, backup, and restore as well as synchronization of file cabinets (synchronization version 2). This will be changed with one of the next DocuWare versions.

Several Workflow Servers can be installed, but the workflows are assigned to fixed individual Workflow Servers. If a Workflow Server fails, the workflows must be manually configured for another server.

Geographically dispersed systems

A geographically dispersed solution requires a lot of effort to implement and is therefore only recommended with the close support and guidance of DocuWare Professional Services.