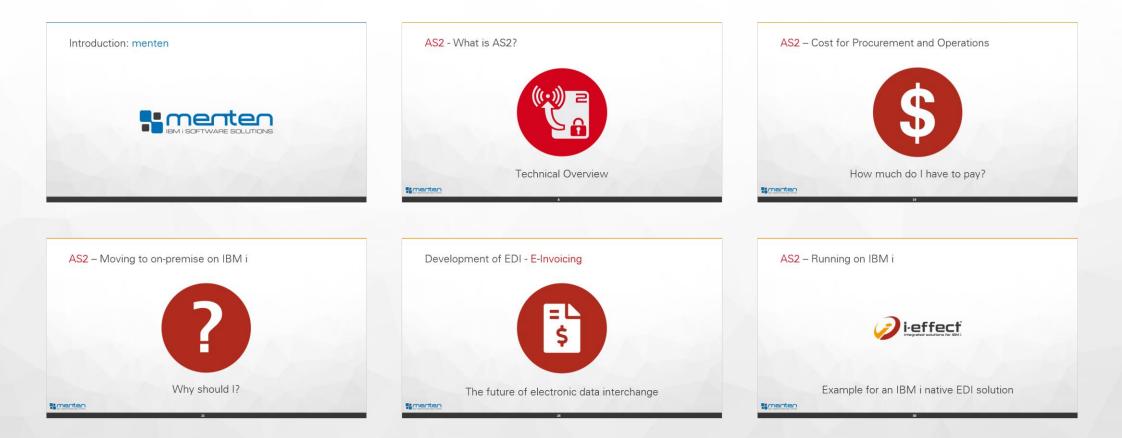
IBM i SOFTWARE SOLUTIONS

Running AS2 on IBM i - Information & Cost Savings



Running AS2 on IBM i - Information & Cost Savings



Introduction: menten



Introducing: The Speaker

- Name
 Ralph Menten
- Function
 Founder, Owner and CEO
- Education
 Graduation from private highschool
 Studied Physics/Maths
 Educated Programmer/Analyst on
 IBM 36/38/400
- Facts
 Married
 Two children (29, 30)
 - Born in Cologne, Germany





Introducing: The Company

- Software & Service for IBM Power Systems users (IBM i)
- IBM Business Partner & Independent Software Vendor (ISV)
- Headquarter in Germany
- Branch office in the U.S.
- 20+ employees
- Family owned







Introducing: The Profile

• EDI Specialist since 1989

- Supplier of a standard EDI solution
- 350+ customers in 32+ industries
- Supplied solutions for 580 IBM Power Systems worldwide





Introducing: Branch Offices





AS2 - What is AS2?



Technical Overview



AS2 - What is AS2?

EDIINT AS2 = EDI over the Internet Applicability Statement 2

- Standardized communication protocol by the IETF
- Direct internet based connection
- Defined in RFC 4130

Exchange structured business data

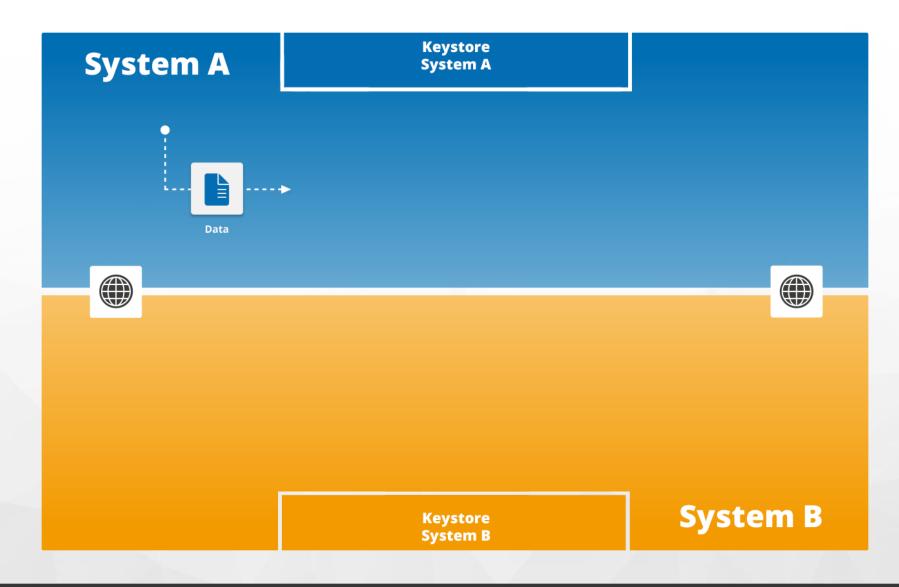
- Based on internet standard HTTP/HTTPS
- Standard MIME structures
- Added security
 - + Public Key Encryption
 - + Digital Signature
- Added reliability
 - + MDN (Message disposition notification)



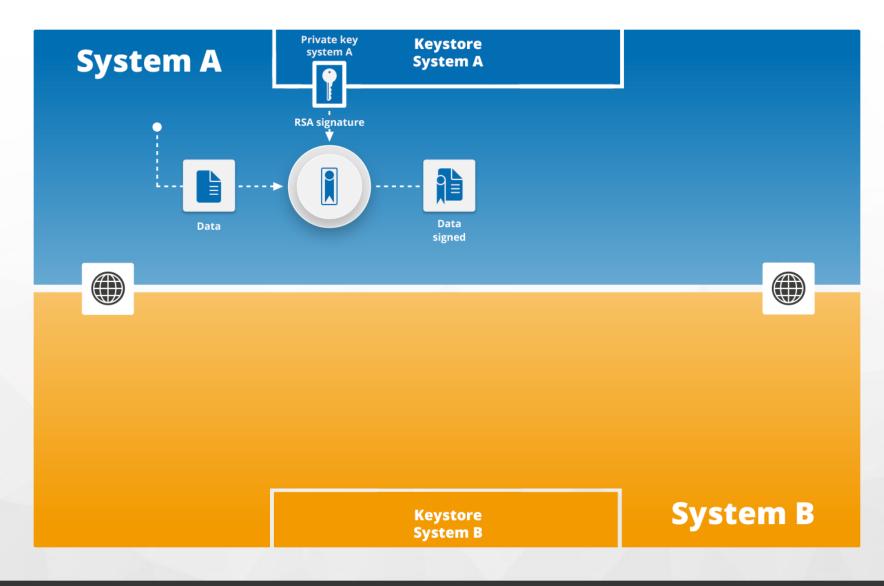
RFC 4130

MIME-Based Secure Peer-to-Peer Business Data Interchange Using HTTP, Applicability Statement 2 (AS2)

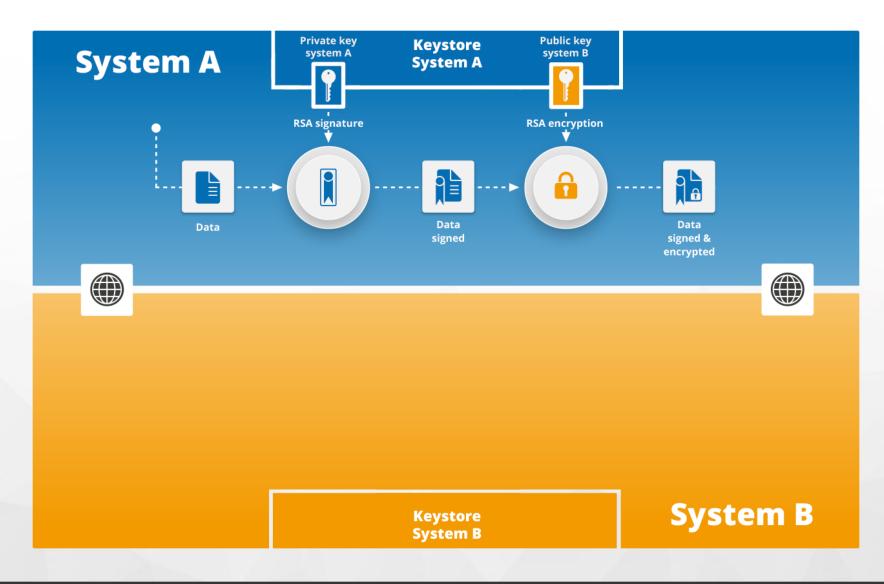




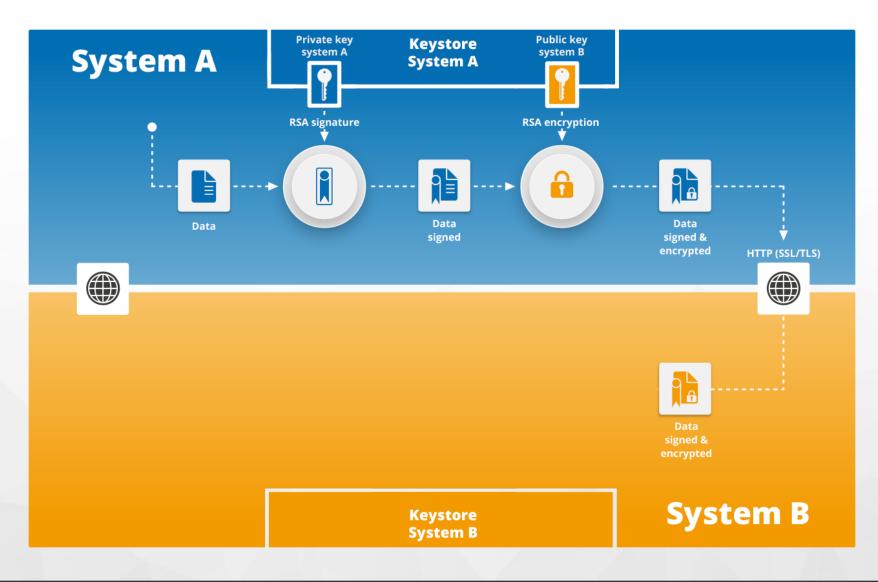




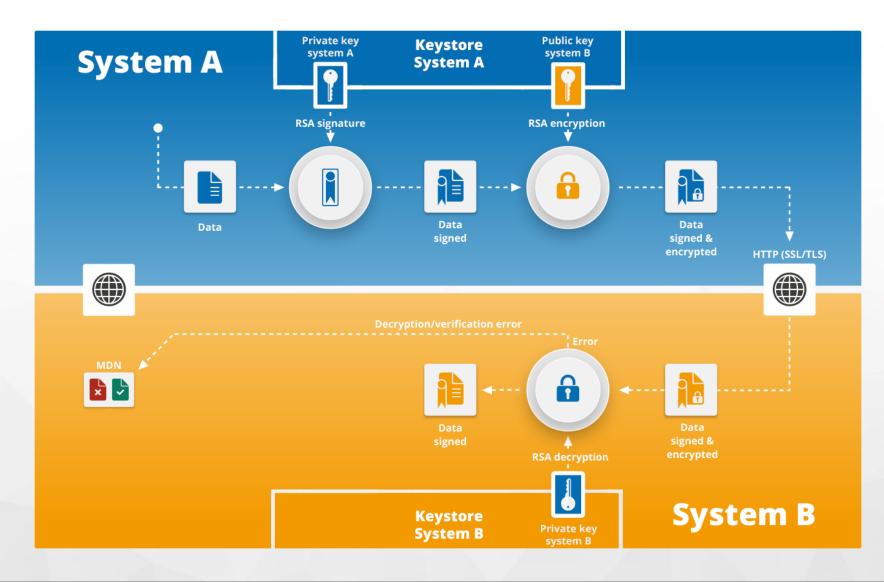




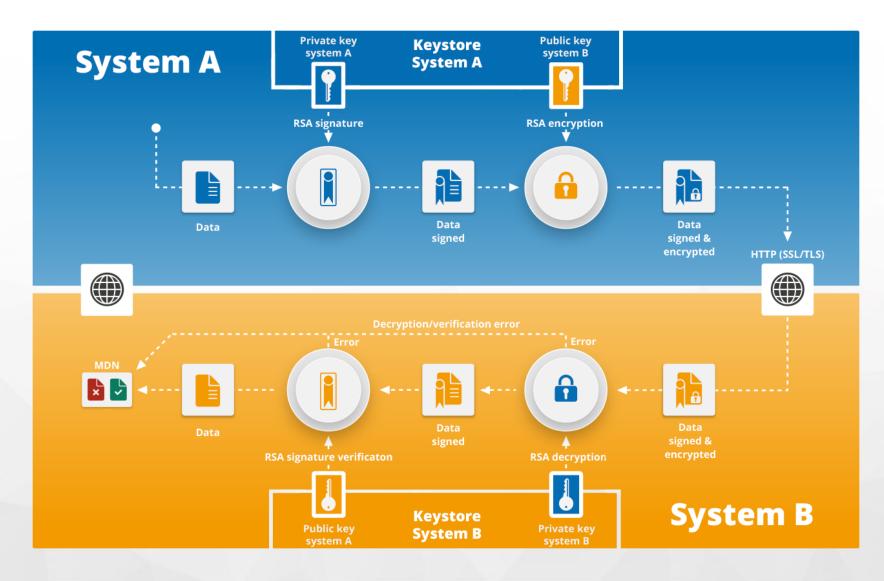




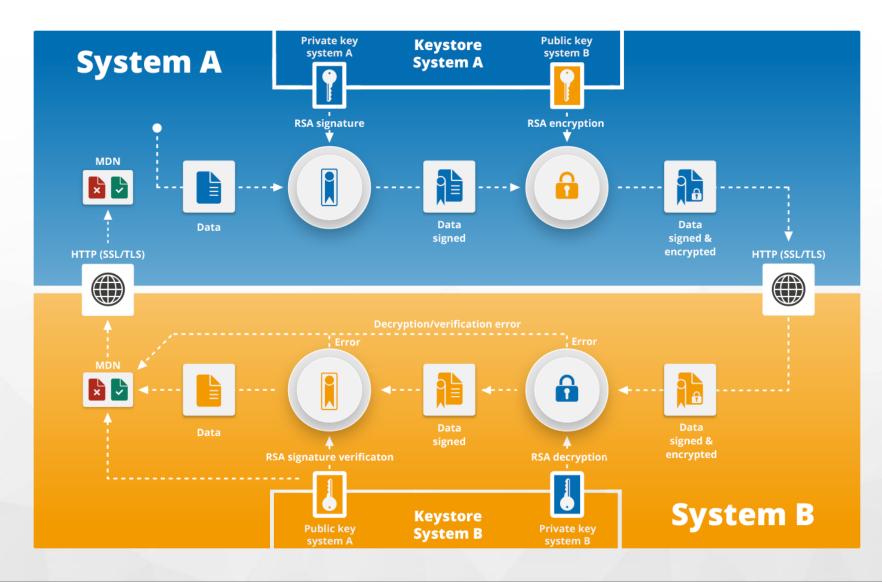














AS2 – Industry Standard



Why is it so secure and reliable?



AS2 - Why is it so secure and reliable?

Transport security

SSL enabled HTTP connection

Content security

- Digital signatures & high 2048bit encryption
- Industry standard X.509 v3 PKI

Transaction security

Asynchronous & synchronous acknowledgement of receipt (MDN)

Reliability

- AS2 specific implementation, no additional software needed
- Transaction safe
- Can run on a reliable IBM Power Systems with IBM i







AS2 – Cost for Procurement and Operations



How much do I have to pay?



AS2 – How much do I have to pay?

Using a service provider/VAN

Charges depend on numerous factors and can easily reach \$30K / year

Using third party software

- License cost
 - 2K 250K depending on platform, # of processor kernels, # of trading partners, # of connections
- Yearly maintenance
 - Up to 20%
- Additional cost
 - When adding trading partners (typically \$600 \$2000)
 - When adding receive ports
 - When upgrading server / processor



AS2 – Moving to on-premise on IBM i



Why should I?



AS2 – Why to Consider Changing?

Currently using a VAN provider

- Charges for additional trading partner setup
- Charges volume dependent (# of messages, transferred data)
- Charges dependent on time of day

Currently running a solution on IBM i

- Upgrading to a new processor group could incur additional license cost
- Limited number of trading partners supported
- Additional gateway software necessary on a PC
- No modern user interface available
- Performance limits in number of parallel transactions possible



AS2 – Cost Savings Potential

Cost savings by switching from VAN to on-premise

• A leading US customer based in Maryland is saving > \$30,000 per year using a solution now that is <u>unlimited</u> in the number of trading partners and connections

Cost savings by replacing the current solution with an IBM i solution

- Save up to \$2,000 per new trading partner if the current solution is limited in the number of partners/hosts
- Save on licensing and maintenance if the current solution needs additional hardware and/or software
- Save on additional software license if upgrading your system (processor group change)



Development of EDI - E-Invoicing



The future of electronic data interchange



E-Invoicing – Current

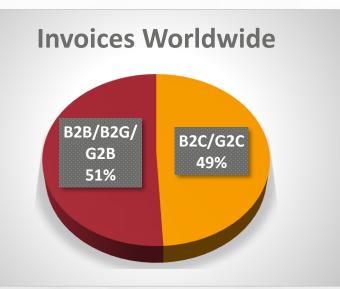
Worldwide volume of invoices in 2019

• Total 550 billion

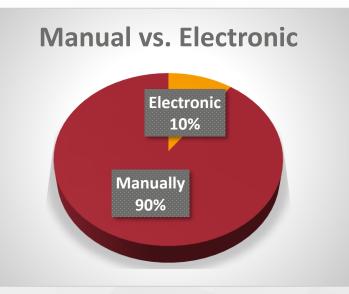
- B2C/G2C = 270 billion
- B2B/B2G/G2B = 280 billion

Worldwide type of processing in 2019

- 495 billion manually
- 55 billion electronically

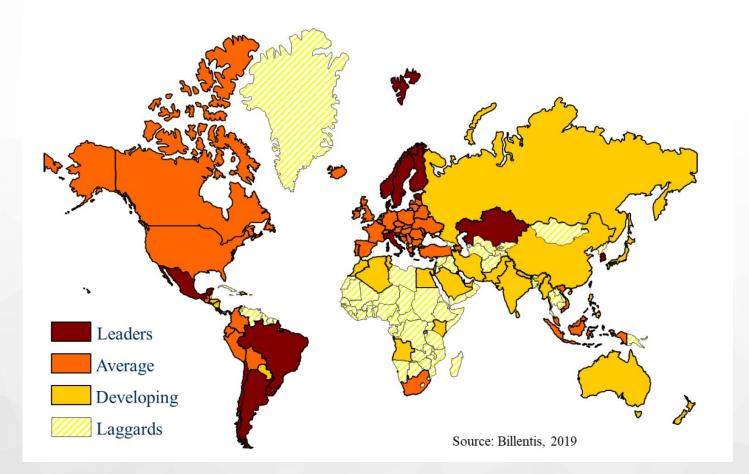


Source Billentis, 2019



Source Billentis, 2019

E-Invoicing – Leading Countries



North America

New initative by Federal Reserve to increase e-invoice adaption by all types and sizes of U.S. businesses based on EU e-Invoice Standard

Europe

The public sector must be able to communicate electronically with the economy for invoices and procurements based on an EU directive in 2020.

E-Invoicing – Expected growth mid-term

Strong growth rates of 10-20% in mid-term

Recipient segment	Eur	ope	LAT	AM	North A	America	AP.	AC	Rest of	f World
Consumer	5		8	-	5	-	4	×	0.5	×
Business & Government	8	,	13	*	5	-	6	1	0.5	×

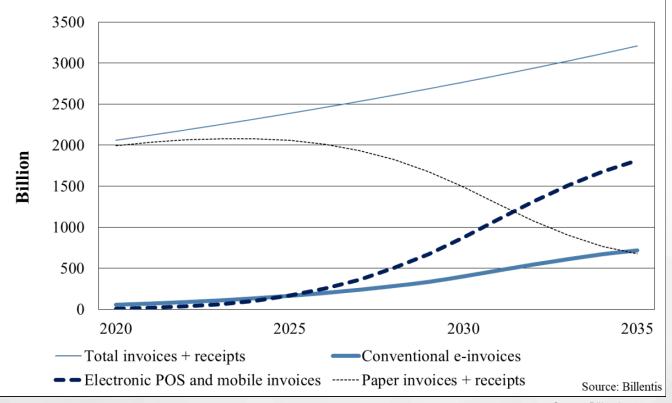
Estimated electronic invoices/bills 2019 (billions, strongly rounded), Source Billentis, 2019

Relative growth rates 🛛 →



E-Invoicing – Expected growth long-term

Volume of invoices in the narrow legal sense will quadruple by 2035



Source Billentis, 2019



Conclusion

Increased demand for EDI in the future

- Your EDI solution must be able to handle increasing demand
- Additional documents and trading partners should not lead to increased cost of operations

Secure solution needed

- Exchanging sensitive business documents requires a secure communication solution on a secure application platform
 - IBM Power Systems with IBM i

Reliable platform needed

- Handling business documents in a just in time environment requires a realiable 24/7 environment
 - IBM Power Systems with IBM i



AS2 – Running on IBM i



Example for an IBM i native EDI solution



AS2 - Setup and Run on IBM i

Verify pre-condition

- BM i 7.1 or higher
- Check PTF groups by using system checker at <u>https://www.i-effect.com/en/systemrequirements/</u>

Download and install

- https://www.i-effect.com/en/downloads-i-effect/
- Run automatic installer

Setup AS2

- Use the build-in web-interface WebControl to:
 - Import or create private and public keys
 - Create AS2 Server and Client profiles
- Adjust firewall (port forwarding)





AS2 – Integration with existing EDI Solutions

Command interface

- Command SNDAS2
- Use interactive, in batch or other CL programs

Automation

- Use IFS/DB2 file monitoring
- Create scheduled jobs
- Immediately process incoming files
- Integrate command calls to other applications

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3700	*NONE	*SINGLE	DEMO: Receive FTP data	Released	*PENDING	RM	2018/09/20	10:24:04	CHGEFFSRVE
3710	*IFS	*SINGLE	DEMO: Send FTP data	Released	*PENDING	RM	2018/09/20	10:30:12	CHGEFFSRVE
3720	*IFS	*SINGLE	DEMO: Send AS2 data	Released	*PENDING	RM	2018/09/20	10:13:14	CHGEFFSRVE
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AS2 – Advantages of running on IBM i

Native implementation

- Native IBM i licensed program
- System integrated object authority

Native Performance

- Multithreading communication subsystem
- Unlimited number of parallel in- and outbound communications

Cost effectiveness

- Unlimited number of transactions
- Unlimited number of trading partners

Ease of use

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- Browser based user interface *WebControl*
- Command interface
- Simplified automation with file monitoring
- Built-in automatic resend

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Advantages / Summary

Substantial cost savings potential by switching from VAN to an on-premise software

Unlimited transmission volume and # of communication partners are important

Licensing should be independent of processor groups

Security and reliability of the platform are important

Different communication protocols and file formats need to be supported

Full automation capabilities are required for seemsless integration into existing environment



More Information



Company homepage

- Portfolio
- Press releases
- Current offers
- Newsletter subscription

www.menten.com



Product homepage

- Overview Software Modules
- Free 30-day full version
- Prices
- Helpline

www.i-effect.com manual.i-effect.com



IBM i SOFTWARE SOLUTIONS

Thank you very much for your interest!



Q&A – Common Questions

Is it secure to run AS2 communication directly on IBM i?

• AS2 runs isolated in its own subsystem and does not relay any other system services like WebServers

Can multiple files be sent/received at once? Are there performance limitations?

- Because of the multi threading architecture, sending and receiving occurs simultaneously
- The number of allowed concurrent communications can be configured and is only limited by system resources

Is there any other software or license required when running AS2 on IBM i

All components are built into the solution. Even the certificate handling does not require any other certificate management software

Is this solution compatible to other AS2 solutions?

 10+ years of interoperability in 100+ customer installations with thousands of trading partners proofs for protocol conform and reliable AS2 communication capability

