

INNOVATION AND EXPANSION OF OUR GLOBAL PLATFORM

Architecture / data centres / security / scalability  
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Product, Technology and Strategy Day – 4 May 2018



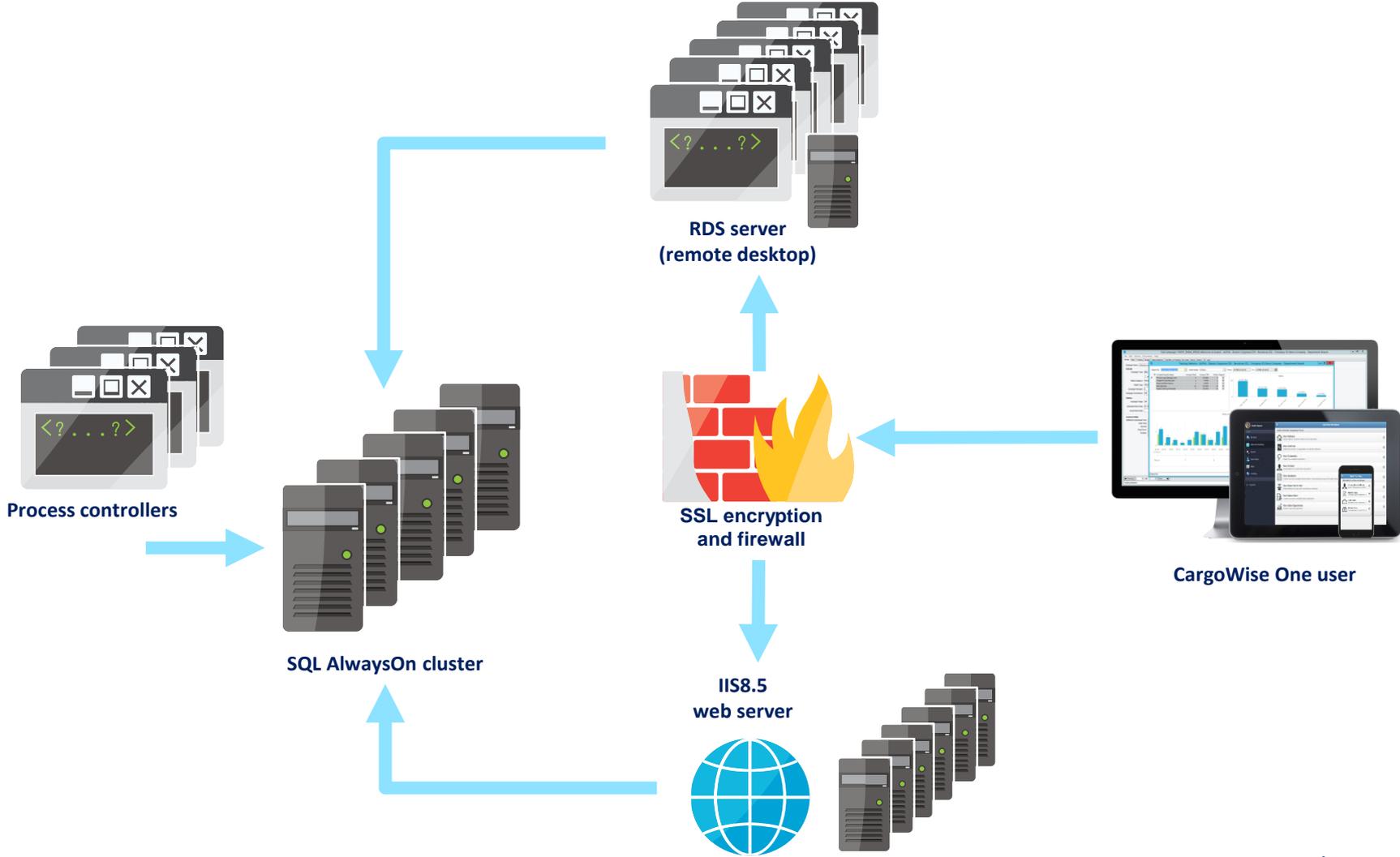
# Integrated global platform structured to be the 'operating system'

- CargoWise One is designed to be the 'operating system' with infinite scale
- Investment in single-source code integrated global platform
- Platform operates efficiently for small users to tens of thousands users per customer
- Test-driven product development framework with 670,000 tests run every 45 minutes
- Focus on efficiency 'more with less'
- Ongoing annual data transaction reduction

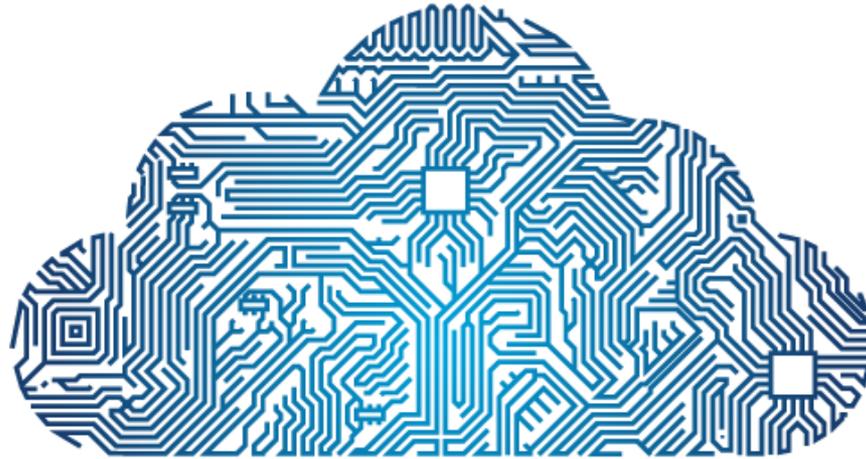


# CargoWise One scalability

*Scales out for high performance and repeatable implementation*



# Global data centres located in UK, Asia Pacific and North America



WiseCloud



England,  
Milton Keynes  
Europe, Middle East, Africa



North America,  
Chicago  
United States, Rest of World



Australia,  
Sydney  
Asia, Australia, New Zealand

# WiseCloud hosting benefits

## Benefits to customer

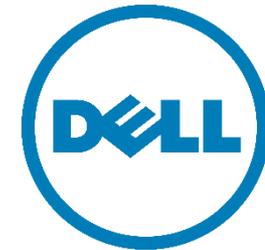
- Faster go-live
- One-stop-shop: provides all they need
- Tuning/optimisation/monitoring provided as part of hosting
- GDPR requirements managed
- SOC accreditation for all data centres
- No upfront capital expense – all operational

## External products that are used for hosting

- Dell servers
- CISCO networking
- Windows / Linux (Cent OS 7)

## Why do some customers use private cloud?

- Security/control protocols
- Existing hardware and IT services spend is utilised



**CentOS**



# Security

*Security implemented at all layers to protect against all forms of attack*

## Software management

Automated patching

Single eHub/Universal\*  
interface decreases surface area  
for attacks



## Data centre

Whole cloud owned by  
WiseTech

Independent audits

- Vulnerability scans
- Penetration testing
- Risk assessment
- SOC accreditation

## Access

Physical access controls

- Two factor authentication internally

Logical access

- Single sign-on
- interfaces encrypted with SSL

## Development

All development in-house (No  
outsourcing)

# Approach to technology

*Technology choices are based on fitness for purpose – no exclusions due to vendor or platform*

## AI/NLP/ML

### Languages

- Scala
- R
- Python

### Techniques

- Neural networks
- Word vector representation
- Big data
- Natural language processing
- Machine learning

## Storage/data

### Software defined networking

### NoSQL

- Mongo
- Graph database

### RDMS

- Postgres
- SQL server

### Indexing

- Lucene
- Elastic Search

## Platform/messaging technologies

- Kafka
- Blockchain/distributed ledgers

Out on the horizon... quantum computing



WiseTech  
GLOBAL