

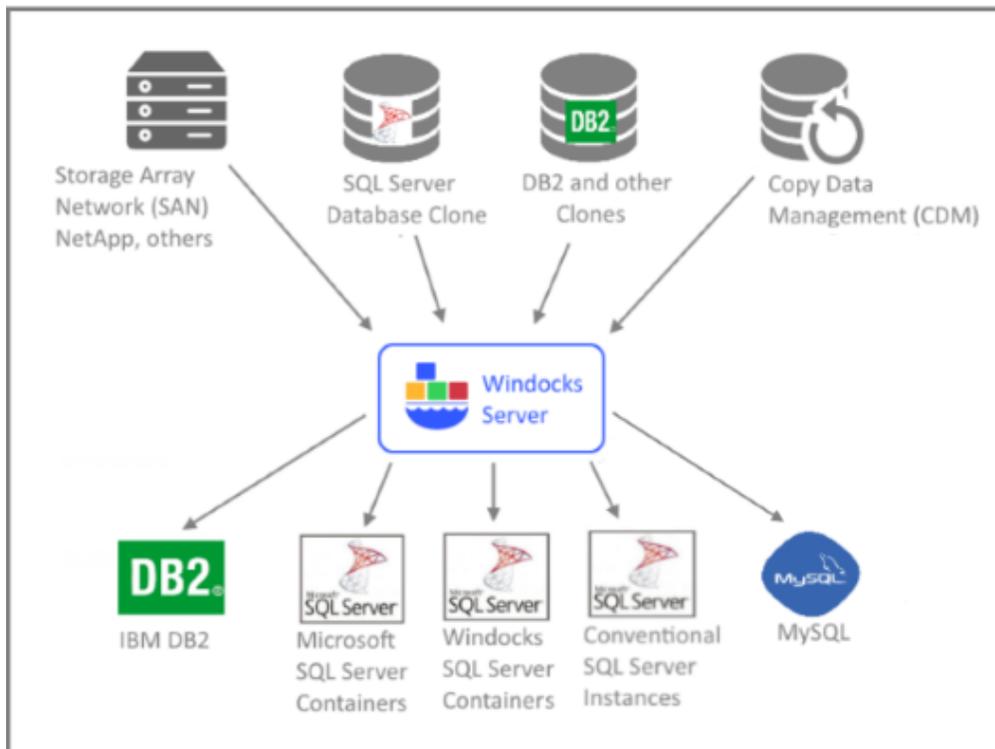
The Business Case for Containers and Clones for Enterprise Data Delivery

Windocks is a modern, open data delivery platform that simplifies creation and delivery of relational database environments for software development and test, reporting and BI, and other uses. The business case for adoption includes a variety of factors, and the following analysis summarizes results realized from scores of Windocks customers.

Conclusions are consistent for on premise or cloud use, and include shortened release cycles with increased test coverage, simplified infrastructure and operations, and improved release quality. The bottom-line is significantly reduced operational costs, with an average 50% reduction in post-release hot fixes.

What is a Data Delivery Platform?

Windocks delivers cloned relational database environments for support of software development, test, and for reporting and BI use. Database clones are complete environments, supporting full read/write operations that are delivered in seconds and consume minimal storage resources. Database clones are sourced from Storage Area Network (SAN) systems, or are built on Windows servers using SQL Server or MySQL backups. Data environments are delivered to any application, including Microsoft or Windocks containers, or conventional applications. Containers and clones are also proving ideal for use with Jenkins, Team City and other Continuous Integration strategies.





Legacy data delivery solutions in use today are expensive, outdated Solaris UNIX systems, that require dedicated storage admins. Windocks is a Windows native solution that enables SQL Server DBAs and developers with the ability to develop, manage, and deliver enterprise data environments securely and efficiently. Windocks is available for small teams, with a price of less than \$20/month per developer. Windocks data images enhance data governance and regulatory compliance.

Evaluating business benefits

Windocks delivers business value when software developers need fast access to data environments that are 5 GB or greater in size. Database clones provide full read/write operations, delivered in seconds, with a minimal storage requirement. Significant savings are realized as the clones minimize storage, and teams use environments on a shared server, reducing their use and maintenance required of individual VMs.

SQL Server Dev/Test before and after containers + clones	Net Change
Teams move from either shared databases or virtual machines, to a single server with isolated containers.	5-10x fewer VMs in Dev/Test
Organizations lack portability of environments. Containers and images are portable and infrastructure agnostic.	Greater freedom to consider cloud and Hybrid Cloud use
Data environments that were refreshed bi-weekly can be refreshed daily or more often as desired. Multi-tier application environments are easily delivered on a single server.	10 - 100x faster, and more reliable delivery of environments
Releases were infrequent, large, and stressful, with post-release remedial work often spanning weeks. Release frequency increased 2-4x with Windocks with improved test coverage, and post-release hot fixes were cut in half or more.	2-5x faster releases Post-release bugs cut in half
DBAs faced constant demands to provision environments. Containers bring developer self-service, freeing DBA time.	DBA productivity up by 1/3
Developers and operations personnel spend hours each week maintaining and updating virtual machine environments, and new team members require hours or days to replicate complex environments. With containers and clones this maintenance is avoided, and new team members are immediately productive.	Significant savings in developer productivity.
Data governance and regulatory compliance at typically at odds with Continuous Integration strategies. Windocks data images support both with immutable, auditable, and versioned artifacts.	Data governance and Regulatory Compliance are first-class considerations

Estimate your expected savings:

The benefits and costs in the use of containers with clones vary depending on the size of the team, how many VMs were used, and vary in terms of productivity and release quality. It's straightforward to quantify use of fewer VMs, and labor previously spent on VM maintenance, but assigning a value to release quality (and the cost of fixing post-release bugs) is challenging. The following analysis reflects a typical team of 6 people, and incorporates conservative results among Windocks customer survey:

Assumptions:

A typical enterprise Virtual Machine with SQL Server has an average cost of \$300.00/month. Developers, DBAs, and IT personnel carry an average labor cost of \$75/hour

Metrics and Results:

Reduction in 5 Virtual Machines at \$300/month each	\$ 1,500/month
Environments delivered in 1 minute vs 1 hour (note 1) 6 people x 1 hour/week x \$75/hr x 4.3 weeks/month	\$ 1,935/month
Reduced VM maintenance of 1 hour/week/VM 5 virtual machines x 1 hour/week x \$75/hr x 4.3 weeks/month	\$ 1,612/month
Cutting post-release hot fixes in half (note 2)	\$ 5,000/month
Average financial benefits	\$10,047/month
Cost of container host (Windocks 25 container server)	\$ 399/month
Net Average Bottom-line Benefit	\$ 9,648/month

Net ROI is >20:1 (\$10,047/\$399 = 25x)

Note:

- 1) Assumes only one environment is delivered and used per week. This productivity gain grows dramatically with more frequent environment updates and use.
- 2) Survey participants estimated an average weekly benefit of 15 man hours that were previously spent in post-release bug fixing. Most organizations value this increase in release quality at a higher rate than the "straight" cost of \$75/hour used in the above calculations.



Financial or Strategic Considerations

Surveys consistently indicate that Windocks generates dramatic bottom-line benefits. The larger question is how to value increased release frequency and improved release quality? Employee recruitment and satisfaction are also enhanced, with teams being less stressed with each release. Studies indicate that post-release bug fixes cost 5-10x the same bug discovered and remedied prior to release. In extreme cases companies have been bankrupted by releasing poor quality software.

How strategically valuable is it for your business to gain competitive advantage in software development? Is it a strategic priority, containers and clones are arguably one of the most compelling ways to modernize .NET + SQL Server software development?

Looking ahead to Continuous Integration with SQL Server

Windocks is available for no-cost evaluation. Register to get your evaluation started at www.windocks.com.