



Arangen Federation Service

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Arangen Federation Solutions

Arangen creates custom platform-independent data integration and federation solutions that provide applications with a unified, global view of enterprise data. The unified view is expressed in the form of up-datable, virtual databases that re-map and restructure data from enterprise data sources. Arangen federation solutions transparently integrate data from multiple data sources without disturbing normal, ongoing business operations. New applications can take advantage of the unified view and can be deployed to run side-by-side and share data with existing legacy applications while the legacy applications continue to run unchanged and unimpeded. The new applications can update, insert, and delete data via the unified view with guaranteed consistency and integrity. Arangen Federation Solutions give enterprises a new, real-time perspective to better manage business operations.

Data Integration Problems

Legacy data silos are the primary obstacle to data integration and federation. Integrating, building, and/or installing new business applications can be stymied when access to data in isolated legacy silos is required. Besides being locked in legacy silos, needed data comes in the wrong format, are inconsistent, and are not organized according to the new application requirements. Designing and implementing hand-coded legacy data re-engineering solutions is very risky, costly and time consuming. If read/write capabilities to the legacy silos is required, then data consistency problems become critical. Legacy data issues must be solved before new applications, and the new business opportunities they represent, can be made operational.

“...over \$100 billion spent annually hand coding integration solutions.”

Forester Research

“...legacy integration support costs consume 35% of IT budgets”

Gartner

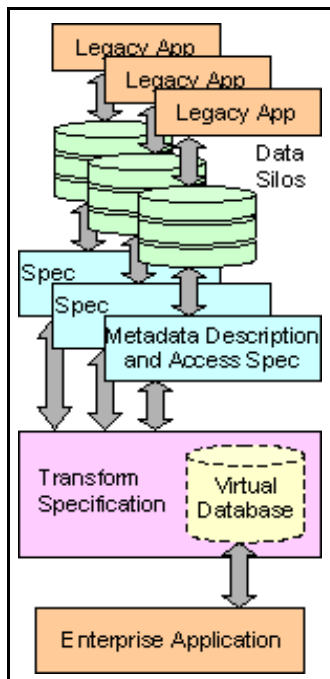
Arangen Technology

Arangen's custom platform-independent data federation solutions liberate enterprise data from legacy data silos, removing roadblocks to business modernization and integration. Arangen technology applies metadata-driven virtual-database technology that re-maps and re-engineers data in real-time from legacy silos to create a unified, global source for integrated enterprise data. Arangen federation technology restructures and re-purposes legacy data for enterprise-wide reuse.



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Arangen virtual database technology accepts and executes standard SQL queries to select, insert, update, and delete re-engineered enterprise data. Read/write queries to virtual databases are executed by metadata configured query engines that transcribe queries for execution by the back-end legacy data sources. Virtual databases return restructured enterprise data re-mapped and restructured in real-time from the back-end legacy data sources.



Arangen extracts and uses a metadata snapshot of legacy silo schemas to build custom federation solutions. Arangen analyzes the legacy silo metadata snapshot to generate virtual database schema metadata that re-maps and re-engineers legacy data according to project requirements. Arangen custom federation solutions deliver an enterprise-wide virtual data source to perfectly support new application development and modernization.

Arangen's platform-independent virtual database technology solutions attach to legacy data silos without disturbing on-going, live business operations. Arangen technology enables new applications to be deployed alongside existing legacy applications to share enterprise data. Running new and old applications side-by-side simplifies the task of validation and acceptance testing. Arangen migration technology enables legacy applications supporting normal business operations to run non-stop throughout an integration project

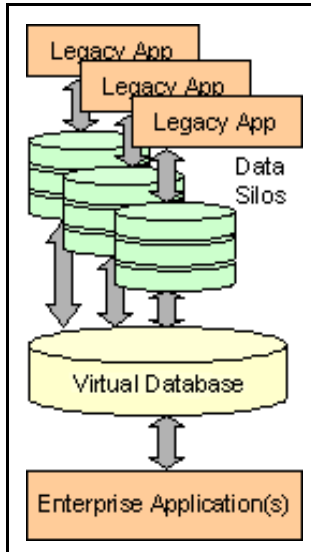
Arangen Federation Solutions

Arangen's platform-independent Federation Solutions enable enterprises having multiple business units with incompatible IT systems to cross-connect and share data and business operations. Arangen federation solutions enable legacy applications from different business units to share data on an enterprise wide basis. Arangen federation solutions enable new business applications to interact with valuable enterprise data locked away in legacy data silos. Arangen federation solutions give organizations the option to extend the service life of existing legacy systems as long as needed or to proceed with modernization and retire the legacy data silos.

Arangen provides standard and complex federation solutions.



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Standard Federation

Arangen's standard data federation is offered to support the development of new and upgraded business applications. Standard federation supplies access to re-engineered data that is combined from several legacy data sources. Development with standard federation is often a prelude to consolidating the back-end legacy data sources into a single database. In other situations, new business objectives require a wider view of legacy data. Standard data federation restructures legacy data into new forms for new uses.

Standard federation is the first step to modernizing aging legacy systems. Once project objectives and requirements are determined, Arangen federation technology is applied to examine and unlock legacy data silos allowing legacy data to be re-engineered and re-purposed. Legacy applications are modernized - rebuilt or replaced. The updated applications are tested and validated against the existing legacy applications and any new project data requirements. (Optionally) Arangen consolidation technology is applied to

consolidate the restructured legacy data into new or existing databases. Arangen's phased roll-over process can then be used to switch business operations to the new system. When the new system is fully operational, modernization is complete. The legacy systems can be shutdown and retired, and the Arangen technology framework may be removed.

Complex Federation

Arangen's complex federation preserves and extends the utility of legacy applications

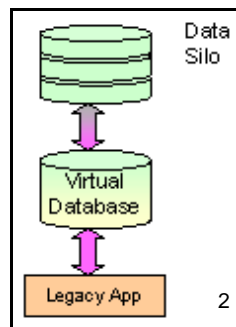
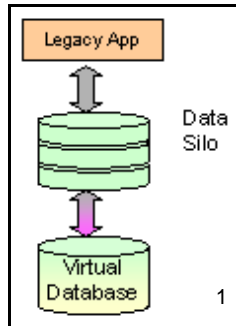
- Complex federation extends the service life of legacy applications by preserving legacy data interfaces when the underlying legacy data sources have been replaced, upgraded or consolidated. Complex federation supplies virtual databases that replicate the data interfaces of retired legacy data sources when the data has been consolidated into other databases.
- Complex federation can extend the reach of legacy applications by delivering cross-database access to other data sources. Virtual databases that replicate legacy data interfaces perform cross-database queries to

obtain and merge data from multiple legacy data sources.

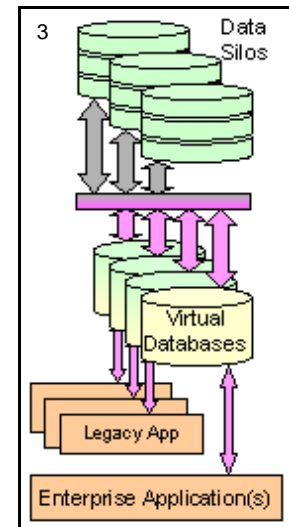
- Complex federation reverse-restructures data back into legacy forms to support and extend the operation of legacy applications.



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Complex federation is the first step to integrating business applications. For example, when a company acquires a new business unit, the business applications must be integrated to share data and work together. Once integration project objectives and requirements are determined, Arangen complex federation technology is applied to examine the legacy data silos. (1) Virtual databases are configured to replicate the legacy data interfaces then (2) legacy applications can be re-targeted to the replicated virtual-data interface. With the legacy applications re-targeted, the virtual-data interfaces are altered (3 - cross-federated) to interact with all other relevant legacy data sources (this is where an acquired business unit's legacy data is opened to the parent unit's applications). (Optionally), when testing and validation against project requirements is complete, Arangen complex consolidation technology is applied to consolidate some or all of the relevant legacy data into new/preferred databases. The Arangen phased roll-over process is applied to switch business operations to the new system(s). When the new system is fully operational, the integration project is complete. Legacy systems that have been consolidated can now be shutdown and discarded. The Arangen framework remains in place to support those legacy applications still targeted to the virtual data interfaces.



Arangen Federation Service

Arangen offers professional services to assist organizations with the development and successful execution of data federation and integration projects. Arangen professionals construct, deliver and install a custom data federation solution using Arangen technology.

The custom federation solution implements a set of virtual databases that deliver re-engineered data in real-time from the legacy data sources. The custom federation solution provides full SQL select, insert, update, and delete query functionality.

Arangen's platform-independent data federation and integration solutions extend the service life of legacy applications by integrating their data into an enterprise-wide data model. Arangen custom solutions provide new data interfaces that are insulated from the legacy platform and legacy data format, making it easier to incorporate new technologies and new business applications without disrupting ongoing business operations.

Data federation and integration pays off in improved business efficiency and reduced operational costs. Arangen technology quickly delivers positive Return On Investment.