

Organisations, large and small, increasingly need access to multiple data sources and services, juggling the need to support legacy applications while simultaneously fostering new initiatives and integrating new systems. To make matters worse these data sources are rarely compatible and are increasingly a combination of structured and unstructured data.

The **Anaeko Data Agility Server (A-DAS™)** addresses this universal problem by consolidating and simplifying access to data, providing what we call *Agile Data Integration*.

A-DAS™ enables customised views of the data using a light touch approach that leaves the underlying data intact.

A-DAS™ provides uniform, consistent access to the data, independent of the original source

A-DAS™ is unique in that, unlike other integration middleware solutions, it does not depend on a 'single version of the truth' and can, therefore, react to change in a rapid and flexible way.



Advantages

Leverage Any Data Source

Create federated views of any number of disparate data sources, across any physical or organisation structure, unifying data access and representation.

Access Real-Time Information

Provide real-time access to static and dynamic data. Create rich views of data accessible via simple RESTful interfaces.

Reduce Cost

Minimise integration time and effort by using a light-touch approach where new data sources can be quickly and easily added and change can be absorbed with minimum impact.

Promote Governance

Support SOA style governance by leaving control at the source, whilst simultaneously promoting unified access and serendipitous reuse throughout the organisation

Reduce Risk

Reduce risk of vendor and technology lock-in; knock on effects from data change, and stale, inaccurate data.

Reduce Effort

Rapidly create prototypes of data integration scenarios to assess data quality, visualise results and communicate trade-offs.

Deliver Enterprise Class Solutions

Light enough to be deployed in modest environments, yet scales to cope with advanced federated search and query across distributed and heterogeneous data sources

Applications

A-DAS™ enables the following applications:

- **Data-as-a-Service**
- **Single View of Customer**, business, property, patient ..
- **Real-Time Reporting**
- **Data Integration Hot-Housing and Prototyping**
- **Master Data Management**
- **Data Integration within a SOA environment**

Anaeko configures **A-DAS™** to access each data store in the customer business networks. Through the **A-DAS™** management interface we define what information to make available to what services and define the relationship between similar and conflicting data. **A-DAS™** sources, caches and intelligently consolidates enterprise data to create virtual views across all data. As new data stores become available they can be added to the growing federation.

Individuals, teams and organisations access the consolidated data federation through simple standards based interfaces. The comprehensive rich data views can be leveraged to deliver a new generation of user centric services.

Architecture

The Anaeko Data Agility Server (**A-DAS™**) is an enabling data integration infrastructure solution that provides a consolidated view of disparate structured and unstructured data sources.

A-DAS™ simplifies the creation of relationships between the many different data sources thereby creating a richer set of customisable materialized and virtualized views.

A-DAS™ has a three layer logical architecture:

Presentation Layer

The presentation layer provides simple application and user interfaces to access the data.

- **Representation** - Tailors the data returned to suit the client capability
- **Caching** - Support for web caching with a fully HTTP 1.1 compliant interface.
- **Queries & Views** - Query processing engine and View catalogue. Supports the creation of queries and views and enables distributed query processing
- **Metadata** - Supports Metadata discovery and creation, allowing simple browsing from any web browser as well as integrated IDE support for the Eclipse platform.

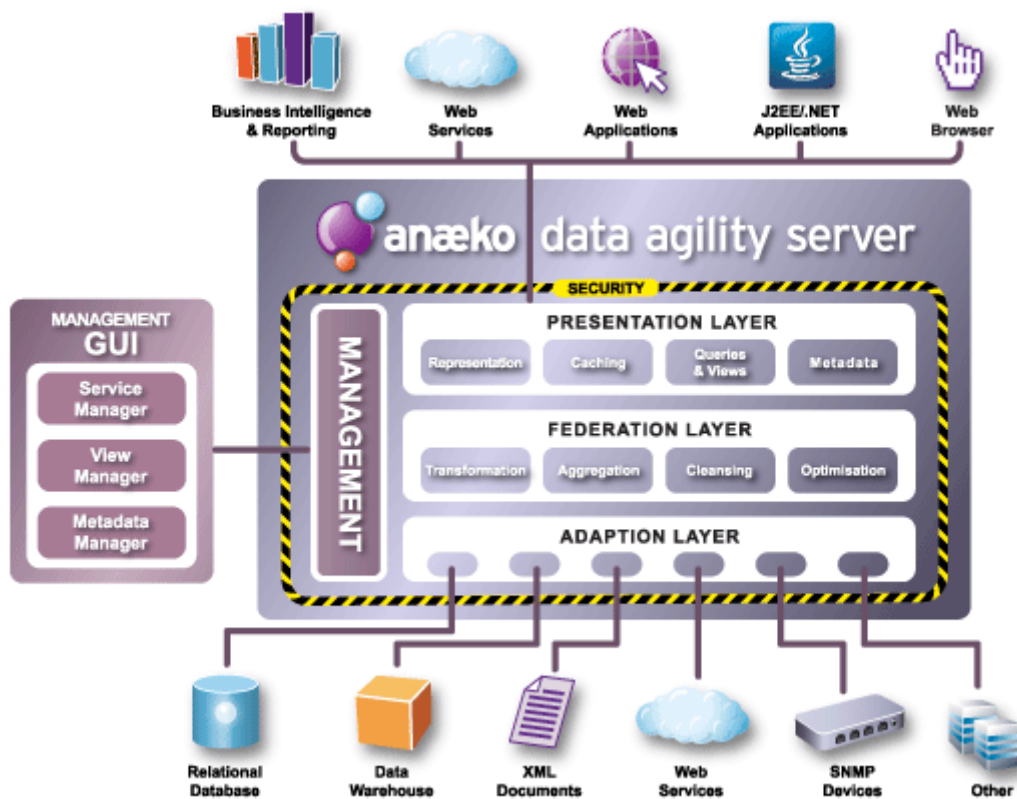
Federation Layer

The federation layer provides real-time federation of distributed data queries

- **Transformation** - User defined scriptable transformations can be applied to the data "on the fly".
- **Aggregation** - Combination of the returned data sets supporting unions and joins of the merged data
- **Cleansing** - Defined scriptable cleansing operations to be applied to the data
- **Optimisation** - Query rewriting, intelligent distribution of the query across the federated source. Performs pushdown analysis to utilise any back-end data source optimisations

Adaption Layer

The adaption layer provides a plug-in adaptor framework, which comes with a number of predefined out-of-the-box adaptors that can be configured to connect to Relational Databases, Web Services etc. It also supports the easy creation of adaptors for legacy and future data stores



A-DAS™ Logical Architecture

Features

Unified Access

- Out of the box access to common data sources, including relational databases, web services, XML, XMPP and SNMP device
- Modular architecture and extensible SDK for rapid development of custom adapters for legacy and proprietary sources.
- Unified and simplified access to data across distributed sites.
- Flexible metadata management with support for browsing, discovery and annotation
- Self-describing RESTful interface

Data as a Service

- Simple data service discovery using the **A-DAS™** rich client or through a standard web browser
- Incremental, rapid evolution of data services
- Flexible client access with support for internet mime-types; data is returned in standard client appropriate formats (HTML, XML, MS Excel, JSON, etc)
- Plugs into your existing web infrastructure
- Protect your data sources by creating an **A-DAS™** data firewall

Query and Transform

- Create ad-hoc queries and predefined data views using real-time data integration and on the fly optimised queries across heterogeneous data sources
- Declarative data access, with support for core relational semantics; ask 'what' not 'how'
- Built in support for data cleansing and transformation, with provision for extensible, scriptable data manipulation in real time, without affecting the underlying data source
- Bring the power of SQL to non-relational sources
- Peer-to-Peer query processing
- Query optimisation with query rewriting, query distribution and query pushdown.

Security

- All components can be distributed on different network segments allowing standard firewalls to be leveraged
- Communication between all distributed components can utilise SSL tunnelling
- Apply fine-grained access control on an individual field basis

Tools and Management

- Remote standards compliant management through JMX
- Rich client interface to management and metadata utilities
- SDK client libraries
- Integrated IDE support for Eclipse

Light Touch Integration

- Supports distributed & centralised deployments
- Supports multiple platforms to fit existing environments
- Dynamic addition and removal of data sources
- Builds on the emergent reuse of the web through its RESTful interfaces
- Standard HTTP and mime support - reduce cost of 3rd part integration
- Support for everyday end-user tools e.g. Excel, web browser etc

Performance and Scalability

- Light enough to tackle the simplest task but Scales for tasks commonly associated with application servers.
- Create a lightweight cached data service, from single sources or across multiple sources
- Support for HTTP caching and proxies
- Operates in both asynchronous callbacks mode and synchronous access mode
- Can be deployed on commodity hardware
- High availability support via 3rd party load balancers
- Utilises a highly scalable stateless Resource Oriented Architecture (ROA)
- Stateless design allows for complete horizontal and vertical scaling

Specifications

Supported Data Sources

- Relational Databases (Oracle, MS SQL Server Sybase, DB2, MySQL, , MS Access, Informix)
- Web Services (SOAP, REST)
- XML, RSS, Atom, xHTML
- MS Excel Spreadsheets (all versions)
- CSV text files.
- SNMPv2 capable devices
- Presence Servers (XMPP, Jabber)
- Location Servers (Parlay X)
- Custom adapters developed to specification

Application Interfaces

- HTTP, HTTPS, HTML, XML, CSV, JSON

Management Interfaces

- JMX, Eclipse IDE Plugin

Platform Requirements

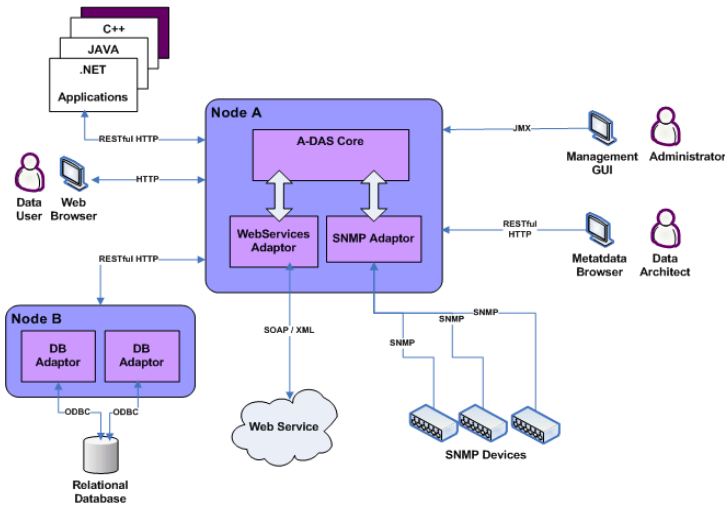
- Memory: 1GB RAM
- Disk Space: 100MB
- Operating System: Any OS with Java support:
 - Windows (2000, XP, Vista)
 - Linux (Red Hat, Ubuntu, Debian, Fedora)
 - Unix (Solaris, HP-UX, AIX)

Deployment

A-DAS™ can be deployed in a completely flexible manner with services distributed to suit load and security requirements. In the simplest deployment, the solution is centrally deployed with remote connections to distributed data stores.

A-DAS™ can either be installed on commodity hardware or delivered as a completely managed service.

The example below shows a centralized deployment of **A-DAS™** core and two adaptors (Node A) with load-balanced database connectors distributed for performance and availability (Node B).



Example A-DAS™ Deployment

About Anaeko

Anaeko was established to address the increasingly complex and challenging data management issues in large organisations and over the years has developed world class competencies in *agile data integration*, specifically RESTful data federation. **Anaeko** has formulated the **Agile Data Integration Methodology™** - a distinctive approach to data integration based on agile principals where early validation and continual refinement guarantee timely solutions that are fit for purpose. This approach promotes quick decision making and prevents changing business objectives from jeopardising data integration projects.

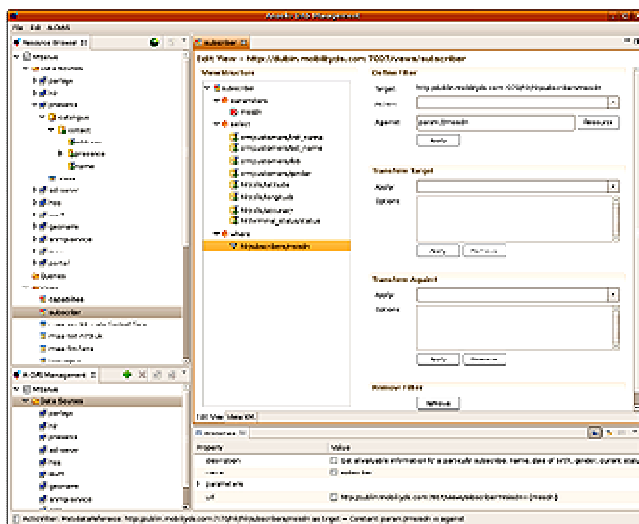
Anaeko's ability and reputation to deliver quality systems and data integration consultancy is demonstrated by a list of clients that includes Meteor Mobile, BT, InterTradeIreland, Accuris Networks, mFormation, ChangingWorlds and many more.

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The A-DAS™ Management GUI