



Building and maintaining flexible and scalable data architectures

The variety, volume and speed of data generation continues to increase at breakneck speed across all organisations. Yet many of our data issues have not gone away. The raft of digital transformation initiatives that get spun up do not take away the need for fundamental practices in the management and use of information that is of value to an organisation.

So the question is: If everyone is moving towards being data driven and information centric, ***why are we still so challenged at managing what is an organisations most valuable asset? And what can we do to make it simpler, practical and pragmatic?***

Data Architecture Online A/NZ will bring together Australia's leading data architecture experts. They will demonstrate how data architecture can be become more flexible and scalable to support strategic organisational outcomes.

Themes:

- **Getting organisational buy-in** on the importance of data architecture, governance and interoperability
- Focusing your architecture on the things that are critical to **making your business work and operate**
- Maximising your **cloud investment** with the power of intelligent data
- **Cloud migration strategies** – including strategic design of data warehouses and lakes
- **Emerging data models** including enterprise conceptual models, logical data models, physical data models, and application-specific logical data models
- Ensuring robust **data integration and governance** processes

Confirmed speakers:

- Renato Iannella, Lead Enterprise Data Architect, **Airservices Australia**
- Joel Anderson, Head Of Architecture and Security, **fidelity life (NZ)**

Data Architecture Online A/NZ DAY ONE

Tuesday 1st June 2021

Getting organisational buy-in on the importance of data architecture, governance and interoperability

10:00 Opening remarks from Siobhan Hady, Conference Director, **Corinium Global Intelligence**
AEST

10:05 **Data Maturity Panel: Getting the executive level to accept the business importance of data governance and interoperability**
AEST

Data maturity is like health and safety – it's not a project, but a practice. How do you get your business to mature?

- Getting data Architecture respected as the other domains of architecture
- Showcasing the short, medium and long term strategy to the stakeholders
- Realising and demonstrating the return on investment of internal architecture
- Getting governance to being a top organisational priority
- How to make sure the business is responsible for leading governance efforts
- Why data maturity leads to good governance

10:30 **Case Study: How this organisation ensures that data architecture is truly aligned with business outcomes**
AEST

- How you get business teams to say 'this is what I want and need from data'?
- General training on data literacy for the business
- Ensuring the projects goals are totally aligned with organisational strategy
- Optimising costs to make sure they didn't get out of control
- How to manage multiple users wishing to collaborate simultaneously
- How they managed post project in order to imbed good data architecture and governance?

Maximising your cloud investment with the power of intelligent data

10:55 **The impact of edge computing on high volume (both in motion and at rest) data**
AEST

- Why it requires a bit more thinking than: "Just put it in the cloud"

11:20 **Adopting cloud native data warehouses and lakes**
AEST

Now more than ever, businesses are focused on improving agility, flexibility, and scalability. Modernising analytics in the cloud is instrumental in achieving these goals, but many cloud analytics initiatives fail due to data integration, data quality, and metadata management issues.

To avoid those pitfalls, you need an intelligent, automated approach to your cloud data warehouse and data lake. A focused cloud lake or warehouse data management strategy helps you drive first time to value and ROI—whether you're modernizing, consolidating, or just getting started in the cloud. It also future-proofs your business with a multi-cloud strategy spanning the cloud platforms your business runs on: AWS, Google Cloud, Microsoft Azure, Snowflake, and more.

11:55 **Leveraging cloud native data platforms (Serverless and containers)**

- Guaranteeing enterprise-calibre scalability, security, and performance
- Eliminating the need to provision, build and manage in-house databases and storage systems
- Cyber security in the cloud – what you should be aware of
- Keeping up with the speed at which things change in the cloud: Staying on top of it as the business keeps moving
- Becoming cloud agnostic - how is this done?

Cloud migration strategies – including strategic design of data warehouses and lakes

12:20 **Migration of data to the cloud and Data Sovereignty and Security**

AEST

- Making sure you are designing, and not just building a solution
- Achieving interoperability across cloud platforms
- Why the cloud can become challenging in terms of where your data is
- Leveraging and consolidating your vendors' offerings
- The role data fabric can play in 'stitching it all together'
- Data migration from a number of different on-prem sources
- Getting unstructured data into the cloud - How do you make it as quick as possible?

12:55 **Panel discussion: Data Warehousing and Data Lakes - where do we go from here?**

AEST

While data lakes have been with use for some time, the question is – have they proved the value they promised? You can get data into a centralise location, but how do you interpret all that raw data?

- From an architecture perspective, is your data lake well understood within the business?
- How can data fabric ensure data is available and constant regardless of where is originates, or where it is accessed?
- How to ensure the architecture of your data lake is sophisticated enough for your business outcomes
- Establishing what are you trying to do with it - and what problems you would like to solve
- Dealing with diverse source structures: Relational versus pre-relational
- Overcoming the challenge of the change of structure
- How do you provide access control when everyone wants to work and collaborate?

Emerging data models

13:20 **Designing robust data integration processes**

AEST

The data integration architecture represents the workflow of data from multiple systems of record through a series of transformations used to create consistent, conformed, comprehensive, clean, and current information for business analysis and decision making. This session will examine:

- Why taxonomy and standardisation is critical in order for data integration it to be successful
- Successfully integrating with internal systems
- What you need for seamless external into internal data integration
- Reducing the complexity of data integration projects
- Why if you take governance seriously, your integration problems may be resolved

13:55 **Panel discussion: Enterprise Data Models – fact or fantasy?**

AEST We struggle to put these things together, and then struggle to operate them when we do. Systems rarely align to them, especially COTS solutions. Where do EDM's gain traction, and where do they fail? This session will examine:

- A logical data layer, providing a virtual approach to accessing, managing, and delivering data without replicating it in a physical repository
- Integration of data siloed across all enterprise systems, regardless of data format, location, or latency
- Data Management via a centralized secure layer to catalogue, search, discover, and govern the unified data and its relationships
- Delivery of integrated information in real time to the applications used by business users

14:20 **Greater enterprise-wide adoption of real-time stream processing for variety of use cases i.e. AI/ML predictive analytics, notification systems**

AEST

- Choosing Data Formats, Schemas, and Development Frameworks
- Algorithm Testing, Validation, Deployment, and Life-Cycle Management
- Unreliable Network Connectivity and/or Nondeterministic Delivery of Data from Remote Devices
- Scaling, Performance and Security

14:55 **Data analytics beyond Hadoop**

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Typically, people reach for Hadoop when the topic of Data Analytics arises, but many organisations do not have meaningfully Big Data requiring an Hadoop solution. This session will give delegates an awareness of the available tools and techniques beyond painfully hand-crafted Hadoop solutions.

15:20 **From centralised data lakes to distributed business domain oriented data asset structures. Achieved through i.e. data virtualisation, data cataloguing/knowledge graphs (ontologies)**

AEST

Instead of building large, centralised data platforms, enterprise data architects should create distributed data meshes. Such a change in approach requires a paradigm shift. As data becomes ever more ubiquitous, traditional architectures of data warehouses and data lakes become overwhelmed, and are unable to scale efficiently. This session will examine:

- How a distributed data mesh approach can overcome these inherent inefficiencies by embracing domain-oriented data ownership
- How next enterprise data platform architecture is in the convergence of Distributed Domain Driven Architecture, Self-serve Platform Design, and Product Thinking with Data
- New governing principles and new language to support the mindset – for example serving over ingesting, and discovering and using over extracting and loading

15:45 **How we can get AI and machines to help with automation of data architecture**

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- Automating associated processes - data ingestion and integration – and other benefits of the cloud
- Leading with the problem, not the technology and designing your architecture around that
- AI and ML data preparation
- Using machine learning to automate governance
- Automation in the pipelining side of data

14:10 **End of Day 1, Data Architecture Online A/NZ**

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Data Architecture Online A/NZ DAY TWO

Wednesday 2nd June 2021

10:00 Opening remarks from Siobhan Hady, Conference Director, **Corinium Global Intelligence**
AEST

Ensuring robust data governance processes

10:05 **Panel discussion: Aligning Data Governance with Data Architecture**

AEST Data Governance forms an important bridge between your data strategies and the real-world implementation of them in the business. This session will examine how to make this happen, by focusing on the following areas:

- Who really owns the data when you have multiple owners?
- Why governance needs to be done from the top down
- Why data must be actively managed – governance as a way of thinking, rather than just a project
- Setting the priorities for improving data, what data to focus on, and what impacts it should have
- Policies about data usage, guiding principles, statements of intent about usage, and mechanisms for accountability

10:30 **Best Practices for Securing Modern Data Architecture**

AEST Today's cloud-native data management platforms can help businesses unlock the potential of their data. These modern data management and storage platforms are designed to deliver lean, high-performance architecture for agile application teams to ensure solid business outcomes, such as rapid time to market. Modern platforms, built for the cloud and in the cloud, offer benefits that make them easier to use and maintain. This helps reduce the total cost of ownership. Newer data services can often support global tasks like credit card payments and health care claims.

However, keeping data safe and compliant still presents challenges. Modern enterprises have a lot of options when it comes to securing sensitive data. So, which approach to modern architecture is best? And, how do you know you've defended your data thoroughly?

10:55 **Metadata Management and Data Governance: The Essentials of Enterprise Architecture**

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- Future directions in metadata management and Master data management
 - Properly documenting metadata and definitions
 - Ensuring data stewards are responsible for data improvement
 - How to make sure data owners are accountable for metadata

11:25 **Panel discussion: Interoperability standards in enterprise architecture**

- AEST
- Tightening the interchange between systems so they are standardised within the enterprise
 - How does it get from one system to another and what is standardised?
 - Achieving true interoperability - getting different applications to conform to data standards

11:50 **The management of large quantities unstructured media data**

AEST With the growing amount of Video and image data, organisations are having to content with a steady increase of unstructured data. While this topic may seem to be more about records management than data architecture, it presents a challenge for organisations since typically when storing media, people store this with related information (e.g. in SharePoint or network drives with related documents). Most solutions store media separately to the contextual data that gives it meaning—a bit like parking your car by disassembling it and parking the parts in different slots. Business units don't like this. What are the better options?

12:15 Potential extra topics:

- AEST*
- **Flexible/extensible data models for i.e. Master data, advanced analytics support, achieved through i.e. graphs**
 - **Multi-region data compliance**
 - **Rapid assessment of data quality**
 - **Graph Databases – exploring the advantages over relational databases**
 - **Single view of the Customer**

12:40 *End of Day 2, Data Architecture Online A/NZ*
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