

White Paper

TM Forum and Open Digital Architecture

TM Forum and ODA

The Telemanagement Forum (TMF) describes the ODA as a blueprint for success in the digital markets of tomorrow. It focuses on the CSP's business and operating models, enabling a choice of technology partners and providing advantages in mindset, decision-making, and time-to-market.

The ODA is an open architecture for business and technology that encourages a community approach to the best practice use of metadata, microservices, and normalized APIs in the next-generation BSS/OSS of a digital world.

The ODA reference architecture maps API's against technical and business platform functions and offer a blueprint, language and set of key design principals which technology suppliers can deliver to accelerate the journey for CSP's to transform to become DSP's where operators face common business challenges.



What is driving the ODA?

Over the past 5 years, broadband data usage has increased dramatically but competition and commoditisation has reduced margins. The opportunities for digitalisation across manufacturing, transport, health and city management are estimated as a total market opportunity of \$1.2 Trillion with CSP's able to address \$580 billion. For CSP's to be at the centre of this revolution the legacy BSS/OSS systems are not appropriate, and the ODA offers an approach to delivering a digitally relevant capability.

Underpinning these responses are technology enablers required by a digital ecosystem. These are a complete cloud and native infrastructure, modularity, rapid innovation cycles, and a low-risk 'pay as you go' approach. The promise of this approach is radically improved agility and operational efficiency.

TMF recognizes that CSPs are responding in two areas:

1. Digital efficiency, which is about using omnichannel customer centricity
2. Digital Enablement is about digital ecosystems such as manufacturing, transport & health services.



The Telemanagement Forum (TMF) describe the ODA as a blueprint for success in the digital markets of tomorrow.

Netadmin Systems compliance table

This table shows the compliance of Netadmin to the ODA principles

ODA Principal	Netadmin	Note
Omnichannel.	✓	We have self-service web portals for subscribers, the Netadmin portal for staff members, messaging channels and other ways of interacting with Netadmin.
Share industry best practice.	✓	Sharing of best practice within the Lumine group as well as continuous improvement from system usage analytics on customer related journeys.
Operational efficiency	✓	Greatly reduced cost to serve through automation and self-service.
Real Time.	✓	Instant updates and retrieval of key information.
Common data model.	</>	Instant updates and retrieval of key information.
Microservices.	</>	As part of our "Cloud Journey", we introduce microservices.
Dynamic integration.	✓	Our API covers a lot of the main functionality. It is possible to create own components that is triggered by common events used by integrations.
Non-stop operations.	</>	As part of our "Cloud Journey", we aim for seamless updates and load balancing.
Catalog based.	✓	Our Order Management capability is built upon a catalog-based approach.
Security by design.	✓	Encrypted communication. Penetration testing for each major release. OAuth2 based authentication.
Privacy by design.	✓	GDPR compliance and processes.
Agile Governance.	✓	Our development process is agile, for product and professional services.
Roadmap Planning.	✓	We work with our customers to prioritize the roadmap items.
Elastic scaling.	</>	Roadmap item to utilize native cloud scaling for services that best fit that need.
Ability to add new channel integrations.	✓	Our open API supports adding new channels for the main processes.
Sharing with charging systems.	✓	Using our APIs, we can share information with charging systems.



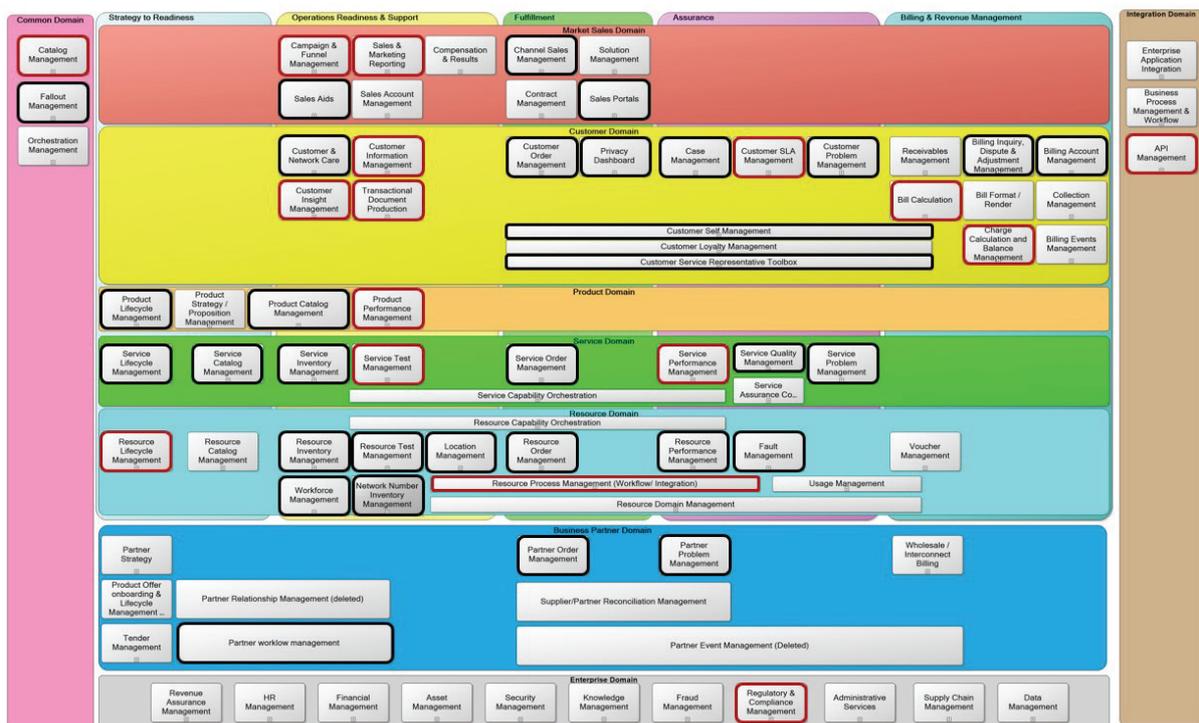
Netadmin Systems compliance table

This table shows the compliance of Netadmin to the ODA principles

ODA Principal	Netadmin	Note
Multi-vendor support.	✓	We have self-service web portals for subscribers, the Netadmin portal for staff members, messaging channels and other ways of interacting with Netadmin.
Minimize time to launch.	✓	Our installer tool together with a standard procedure for installation minimize time to launch.
Sideways integration.	✓	Our API and event system enables integration with many different systems – invoicing, GIS/NIS, portals, network element systems, etc.
Layering.	✓	We provide vertically integrated software that takes care of layering of products, technical services, resources and more.
Common data vertical.	✓	Netadmin can utilize data from other sources where necessary to provide meaningful information to the subscribers and those serving the subscribers.
Legacy integration.	✓	We have integrated with lots of different providers, platforms, systems and networks across the different capabilities and add-ons.

Open Digital Framework - Functional Architecture Mapping

The illustration below shows what areas that Netadmin covers in the ODA functional architecture map.



Full. Partial

Open Digital Architecture - Functional Architecture Mapping

The table below lists each area in the functional architecture map and Netadmin's compliance level.

ODF Functional Architecture

Netadmin Compliance

Common Domain - Catalog Management	Partial
Common Domain - Fallout Management	Full
Common Domain - Orchestration Management	Limited or no support
Market Sales Domain - Campaign & Funnel Management	Partial
Market Sales Domain - Sales Aids	Full
Market Sales Domain - Sales & Marketing Reporting	Partial
Market Sales Domain - Sales Account Management	Limited or no support
Market Sales Domain - Channel Sales Management	Full
Market Sales Domain - Contract Management	Limited or no support
Market Sales Domain - Solution Management	Limited or no support
Market Sales Domain - Sales Portals	Full
Customer Domain - Customer & Network Care	Full
Customer Domain - Customer Insight Management	Partial
Customer Domain - Customer Information Management	Partial
Customer Domain - Transactional Document Production	Partial
Customer Domain - Customer Order Management	Full
Customer Domain - Privacy Dashboard	Full
Customer Domain - Case Management	Full
Customer Domain - Customer SLA Management	Partial
Customer Domain - Customer Problem Management	Full
Customer Domain - Customer Self Management	Full
Customer Domain - Customer Loyalty Management	Limited or no support
Customer Domain - Customer Service Representative Toolbox	Full
Customer Domain - Receivables Management	Limited or no support
Customer Domain - Bill Calculation	Partial
Customer Domain - Bill Inquiry, Dispute & Adjustment Management	Full
Customer Domain - Bill Format / Render	Limited or no support



Open Digital Architecture - Functional Architecture Mapping

The table below lists each area in the functional architecture map and Netadmin's compliance level.

ODF Functional Architecture

Netadmin Compliance

Customer Domain - Charge Calculation and Balance Management	Partial
Customer Domain - Billing Account Management	Full
Customer Domain - Collection Management	Limited or no support
Customer Domain - Billing Events Management	Partial
Product Domain - Product Lifecycle Management	Full
Product Domain - Product Strategy / Proposition Management	Partial
Product Domain - Product Catalog Management	Full
Product Domain - Product Performance Management	Partial
Service Domain - Service Lifecycle Management	Full
Service Domain - Service Catalog Management	Full
Service Domain - Service Inventory Management	Full
Service Domain - Service Test Management	Partial
Service Domain - Service Order Management	Full
Service Quality Management	Full
Service Domain - Service Problem Management	Full
Service Domain - Service Capability Orchestration	Partial
Service Domain - Service Assurance Control	Partial
Resource Domain - Resource Capability Orchestration	Limited or no support
Resource Domain - Resource Lifecycle Management	Partial
Resource Domain - Resource Catalog Management	Limited or no support
Resource Domain - Resource Inventory Management	Full
Resource Domain - Resource Test Management	Full
Resource Domain - Location Management	Full
Resource Domain - Resource Order Management	Full
Resource Domain - Resource Performance Management	Full
Resource Domain - Fault Management	Full
Resource Domain - Voucher Management	Limited or no support



Open Digital Architecture - Functional Architecture Mapping

The table below lists each area in the functional architecture map and Netadmin's compliance level.

ODF Functional Architecture

Netadmin Compliance

Resource Domain - Workforce Management	Full
Resource Domain - Network Number Inventory Management	Full
Resource Domain - Resource Process Management (Workflow Integration)	Partial
Resource Domain - Usage Management	Limited or no support
Resource Domain - Resource Domain Management	Full
Business Partner Domain - Partner Strategy	Limited or no support
Business Partner Domain - Product Offer onboarding & Lifecycle Management	Full
Business Partner Domain - Tender Management	Limited or no support
Business Partner Domain - Partner Relationship Management	Limited or no support
Business Partner Domain - Partner workflow management	Full
Business Partner Domain - Partner Order Management	Full
Business Partner Domain - Partner Problem Management	Full
Business Partner Domain - Supplier/Partner Reconciliation Management	Full
Business Partner Domain - Event Management	Limited or no support
Business Partner Domain - Wholesale / Interconnect Billing	Full
Enterprise Domain - Revenue Assurance Management	Partial
Enterprise Domain - HR Management	Limited or no support
Enterprise Domain - Financial Management	Limited or no support
Enterprise Domain - Asset Management	Limited or no support
Enterprise Domain - Security Management	Limited or no support
Enterprise Domain - Knowledge Management	Limited or no support
Enterprise Domain - Fraud Management	Limited or no support
Enterprise Domain - Regulatory & Compliance Management	Partial
Enterprise Domain - Administrative Services	Limited or no support
Enterprise Domain - Supply Chain Management	Limited or no support
Enterprise Domain - Data Management	Limited or no support
Integration Domain - Enterprise Application Integration	Limited or no support
Integration Domain - Business Process Management & Workflow	Limited or no support
Integration Domain - API Management	Partial

Open Digital Architecture

The key to achieving a scalable and simplified architecture is by taking a layered approach at both macro and micro levels. Broad categories should be subdivided into operating modules, all connected by REST APIs. This facilitates horizontal layering and scalability, ultimately resulting in fewer required systems and lower operational costs.

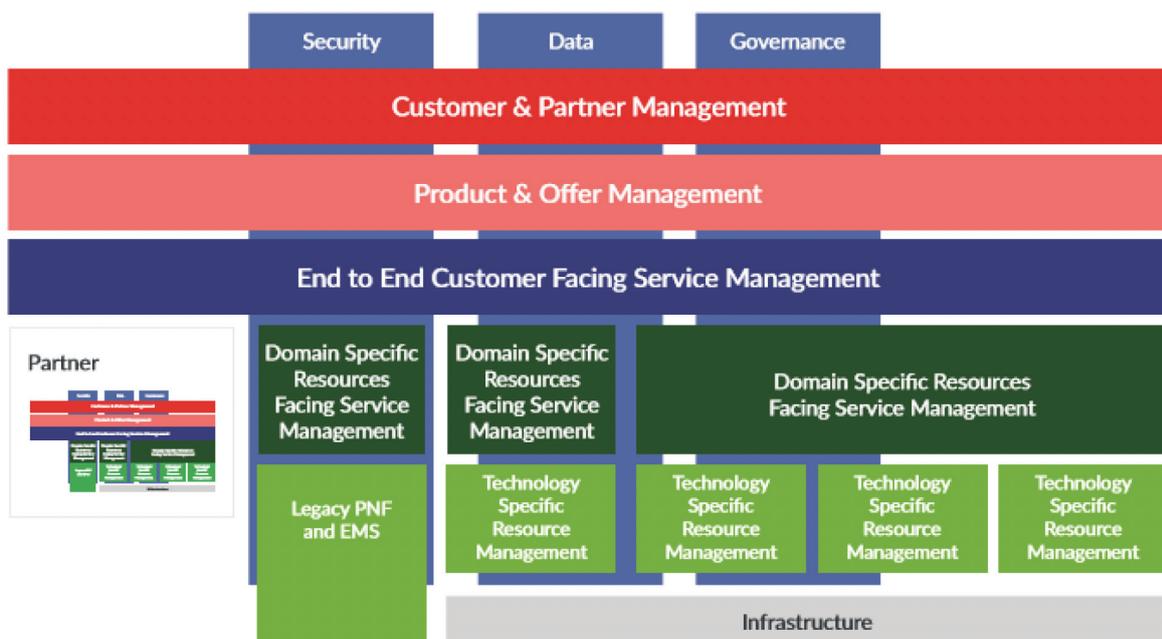
The fundamental reason to do this is to achieve a single view of the customer. Data generated in one part of the architecture must be available to components at any other point in the architecture. This principal has led to the concept of a common data vertical which coupled with security and governance makes data available in real-time to any component of the system.

Componentisation is important because systems often have multiple vendors and need to integrate with legacy environments. This is especially true until migrations to new BSS back-end systems can be completed over several years.

Applying microservices principles to modularity enables continuous delivery and reduces time to market and time to value. Any change is isolated to a specific business function.

The architecture goals are to deliver:

- Independent scalability
- Faster time to market
- Greater flexibility
- Security
- Future proofing
- Flexible architecture
- New products and business models
- Reduced costs
- Increased speed
- Enhanced customer experience



WE'RE ENABLING DIGITAL EXPERIENCES

White paper: TM Forum and Open Digital Architecture.



Netadmin Systems is a vertical software company dedicated to providing essential software solutions to support wholesale fiber operators in Building, Operating and Monetizing fiber networks. Since being founded in 2004, Netadmin has become a major contributor to the Fiber-to-the-Home industry.

Since 2015 Netadmin is owned by Lumine Group, a subsidiary of Constellation Software Inc.

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