

## White Paper

# Why TOGAF is Now the De Facto Enterprise Architecture Framework

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Louw is a Managing Partner at CS Interactive Training, a specialist IT consultancy focused on providing methodology consulting, training and systems to organizations who need to build internal capacity within their Analysis, Architecture, Design, and Requirements Management environments. Louw is passionate about all aspects of information management and has had the opportunity to act as strategist, architect, speaker, trainer, analyst, modeler and developer within this field over the past 20 years.

**When I started my formal architecture career in the early 2000's I was asked by the CTO of a previous employer of mine to investigate a series of architecture frameworks and to select a framework that we could use in our organization to help with the maturity of our architecture projects and also the formalisation of our architecture function. After three months of work sessions with vendors (at that time every consulting house had a propriety Architecture framework) we adopted TOGAF. I must admit that it was not 'love at first sight' when I first tried to read through the TOGAF version 8 document. However, when I now think back to the process, and all the mistakes we made in getting started, the best choice we made was the selection of the TOGAF framework as the basis for our architecture practice.**

I can honestly say we did not select it based on the completeness or superiority of the framework, there were other propriety frameworks that were more advanced and more complete with better guidance, but none of them had the crucial element that we wanted, a community. That single fact, an active community or eco-system, has since made TOGAF the undisputed industry standard used by architecture practitioners as highlighted by the survey results below that was conducted in 2009, a few months after TOGAF 9 was released.

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### Which Enterprise Architecture framework(s) are in use within your organization?

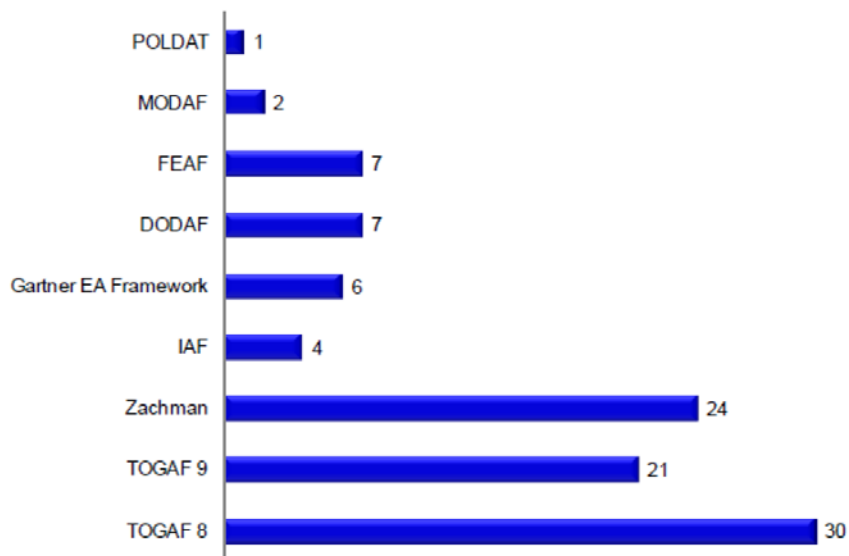


Figure 1: Survey results released 2009 at Open Group Toronto EAPC [https://opengroup.org/tech/arch\\_newsletter/nl\\_aug09.pdf](https://opengroup.org/tech/arch_newsletter/nl_aug09.pdf)

I will justify my claim that TOGAF is the industry standard by first highlighting the size and diversity of the community that created TOGAF and which continues to support and grow the standard. Secondly I will use ISO 15704 (Requirements for enterprise-reference architectures and methodologies) as a generalised framework for describing the components needed by an enterprise architecture framework.

## The active TOGAF Eco-system

My claim that TOGAF is a truly global standard is based on the following three factors:

1. The diversity of the global Open Group membership that participates in the development of the TOGAF standard
2. The localisation of TOGAF is making the standard available to a significant community of non-English speaking architects around the globe
3. The growth in the certification of architects on the TOGAF standard

## Diverse global participation in TOGAF development

The TOGAF standard is a product of The Open Group, a global consortium with more than 350 members. This diverse membership consists of client organizations (including multi-national organizations, SME's, public sector organizations) and suppliers of products and services that span all sectors of the economy.

All these member organizations participate in conferences and workgroups co-ordinated by The Open Group and participants involved in developing and evolving TOGAF come from a variety of backgrounds, including; customer organizations, government, systems and solutions suppliers, tool vendors, integrators and consultants, as well as academics and researchers.

The geographical distribution of the Open Group offices in a number of key countries across the globe makes it practical for architecture professionals to participate in the development of TOGAF and also ensures that TOGAF is truly a global standard.



**TIP:** Participate in improving the quality of TOGAF by becoming a member of the Open Group, either directly or through a partner in your country.

**Open Group Offices** <http://www.opengroup.org/>

*United Kingdom (Reading, Berkshire, UK Office)*

*United States – West (San Francisco, CA, USA Office)*

*United States – East (Boston, MA, USA Office)*

*Brazil (São Paulo, Brazil Office)*

**Open Group Partner Offices**

*Arabia* <http://www.opengroup.org/arabia/>

*China* <http://www.opengroup.org.cn/>

*France* <http://www.architecture-forum.org/>

*India* <http://www.opengroup.org/india/>

*Japan* <http://www.opengroup.or.jp/>

*South Africa* <http://www.realirm.com/tog/open-group>

*Sweden* <http://www.opengroup.org/sweden/>

## TOGAF Localisation

The Open Group members are also very active in translating TOGAF into different languages to enable global participation. The work includes the translation of glossaries, pocket guides, the TOGAF 9 book, and examinations into different languages.

The availability of the TOGAF 9 book in Chinese and Japanese is creating a common architecture language between worlds that were previously were very difficult to bridge. Also the availability of the TOGAF 9 Pocket Guide in French, Dutch, German, Japanese, and Chinese just makes it easier for non-architects to get access to TOGAF methods and techniques.

The localisation teams in the Open Group (remember that all activities in the Open Group are member driven, so this means that there are non-English speaking architecture demand for the translations) are busy with initiatives to further translate TOGAF into Portuguese and Spanish (with variations for Portuguese and Brazilian Portuguese, Catalan Spanish and Latin-American Spanish).

## Certified Individuals

As of 31 July 2011, the number of Architects that have been TOGAF certified has reached more than 16000 individuals globally.

*(See Table below)*

TOGAF 9 Certified	5672 Registered Individuals
TOGAF 9 Foundation	2396 Registered Individuals
TOGAF 8 Certified	8211 Registered Individuals + 57 confidential

**Table 1: Summary of Register of Certified TOGAF Architects as on 31 July 2011**

The TOGAF 9 certification is currently one of the most recognised certifications within the Enterprise Architecture discipline and the availability of certification exams in multiple languages is also growing the adoption of TOGAF by non-English speaking architects.

Lastly, the acceptance of TOGAF as a standard can be confirmed when searching through recruitment agency listings for architecture positions. Most of the agencies indicate TOGAF certification as a pre-requisite for job applicants.

## Requirements of a good Architecture Framework

Is TOGAF 9 a good architecture framework? Is it good enough to support the diverse group of organizations that need architectural support?

If you ask this question to The Open Group, the answer will be yes, of course. So I did not even bother to ask the question, as I wanted an honest and independent answer. I did ask consulting firms for advice, but found that they would say yes or no, but would always want to encourage me to adopt their framework or enhance TOGAF with their special secret source (and at a ridiculous price of course!).

The result was that I conducted my own research and experiments (I will give more detail about this in a later white paper for those who are interested) and decided to use the Generalized Enterprise Reference Architecture and Methodology (GERAM) as a benchmark. GERAM is an annex to ISO 15704 Requirements for enterprise-reference architectures and methodologies and describes the methods, models and tools which are needed to build and maintain an integrated enterprise.



# Enterprise Engineering Methodology (EEMs)

EEMs describe the processes that must be followed when performing the enterprise engineering or enterprise architecture activity. According to GERAM an enterprise engineering methodology may be expressed in the form of a process model or structured procedure with detailed instructions for each enterprise engineering and integration activity.

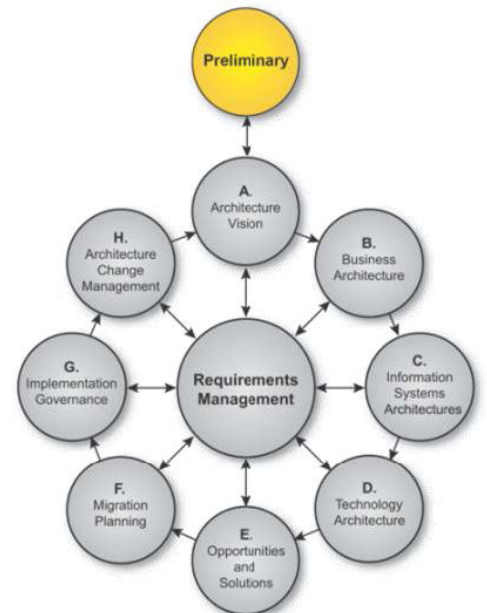


Figure 3: TOGAF ADM

The TOGAF 9 Architecture Development Method is the core of the TOGAF standard and detailed process steps are described and explained in the standard.

## Enterprise Modeling Languages (EMLs)

EMLs define the generic modeling constructs for enterprise modeling adapted to the needs of architects who are creating and stakeholders who are using enterprise models.

In particular enterprise modeling languages will provide constructs to describe all the concepts defined within the Generic Enterprise Reference Architecture, including Human, Process and Technology concepts.

TOGAF do provide a meta-model for use in defining these concepts, but are modeling notation agnostic.

**Alternative compatible Solution:** The Open Group ArchiMate Forum developed and is maintaining an Enterprise Modeling Language that adheres to the requirements of this component. The Architecture Forum and ArchiMate forum are working closely together to ensure that the ArchiMate language is tightly aligned and integrated into the TOGAF 9 Architecture Development Method, allowing seamless integration for architects using these standards together.

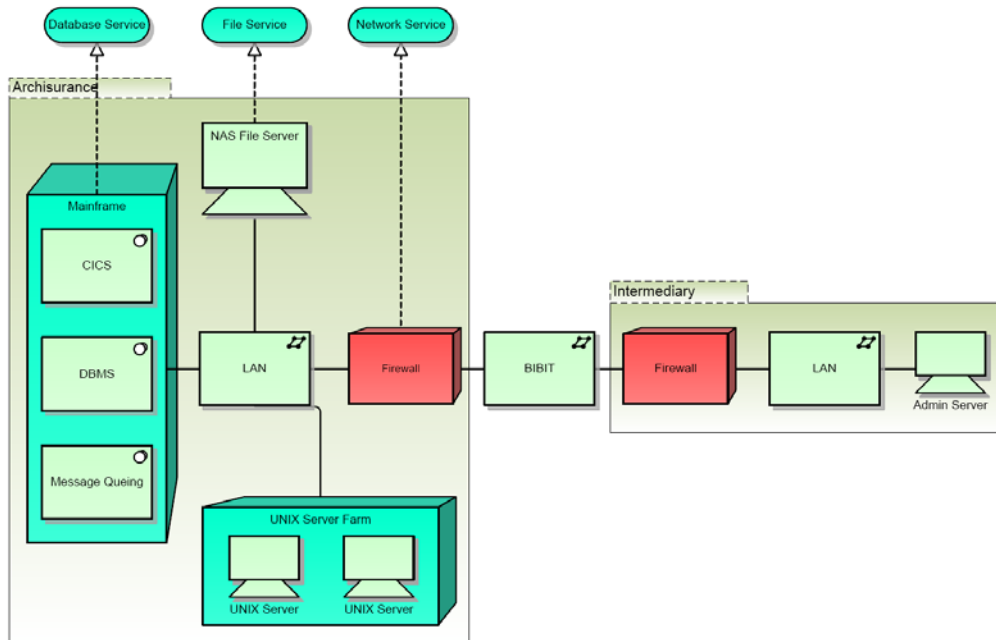


Figure 4: A diagram drawn according to the ArchiMate notation, which is increasingly aligned with TOGAF

## Enterprise Engineering Tools (EETs)

EETs support the processes of enterprise engineering and integration by implementing an enterprise engineering methodology and supporting modeling languages. Engineering tools should provide for analysis, design and use of enterprise models

TOGAF is an architecture framework and not a physical product; however there are architecture tool vendors that do support the TOGAF 9 implementation natively in their products. (See my white paper on the Top 10 factors to consider when selecting a TOGAF 9 Repository)

## Generic Enterprise Modeling Concepts (GEMCs)

GEMCs define and formalize the most generic concepts of enterprise modeling. Generic Enterprise modeling concepts may be defined in various ways. In increasing order of formality generic enterprise modeling concepts may be defined as:

- Glossaries
- Meta-models
- Semantic-meanings (typically, built inside the engineering tools).

The TOGAF 9 meta-model is available to use to when defining views and to assist with the definition of domain specific modeling languages. The best approach is to ensure that the meta-model is implemented in an architecture repository.

**Tip:** If you are using the Zachman Framework, this is where to place it in the GERAM conceptual map



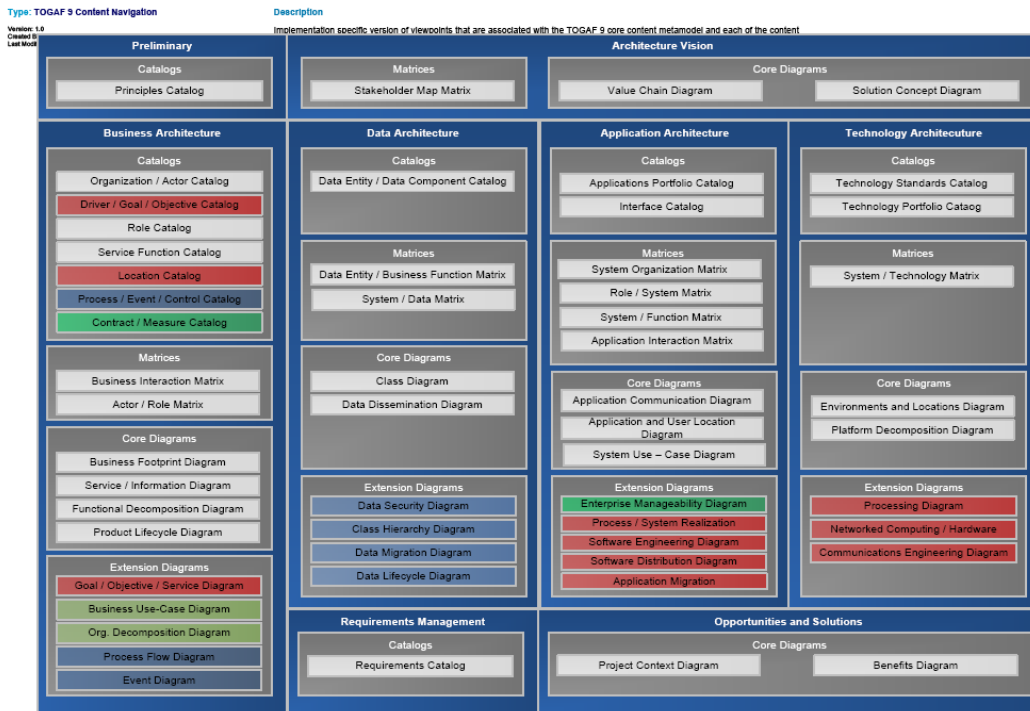


Figure 5: The TOGAF 9 Meta-model defines different EA views

## Partial Enterprise Models (PEMs)

PEMs capture characteristics common to many enterprises within or across one or more industry or sector. Thus these models capitalize on previous knowledge by allowing model libraries to be developed and reused in a ‘plug-and-play’ manner rather than developing the models from scratch. Partial Enterprise Models make the modeling process more efficient.

The Enterprise Continuum and more specifically the Architecture Continuum is used within TOGAF to classify Partial Enterprise Models that are made available for re-use. These models reside in the architecture repository within the reference architecture area.

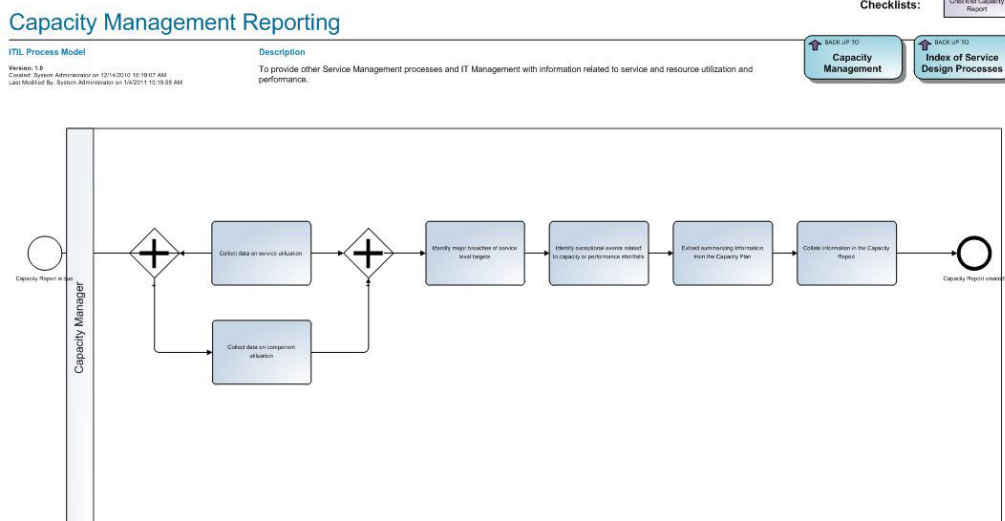


Figure 6: A process modelled in accordance with ITIL, an example of a PEM



# Enterprise Modules (EMOs)

Enterprise Modules are implemented building blocks or systems (products, or families of products), that can be utilised as common resources in enterprise engineering and enterprise integration

The Enterprise Continuum, and more specifically the Solutions Continuum is used within TOGAF to classify Enterprise Modules that are made available for re-use. These models reside in the Definitive Software Library and are linked to the repository by using a reference.

## Particular Enterprise Models (EMs)

EMs represents the particular enterprise. Enterprise models can be expressed using enterprise modeling languages. EMs includes various designs, models prepared for analysis, executable models to support the operation of the enterprise, etc. They may consist of several models describing various aspects (or views) of the enterprise.

The TOGAF 9 Content Framework describes the deliverables produced when applying the Architecture Development Method. The Architecture Requirements Specification and Architecture Definition Document are two examples of how the architecture models and views are packaged for use by the implementation teams to construct the actual product or service, based on the architecture defined during the previous processes.

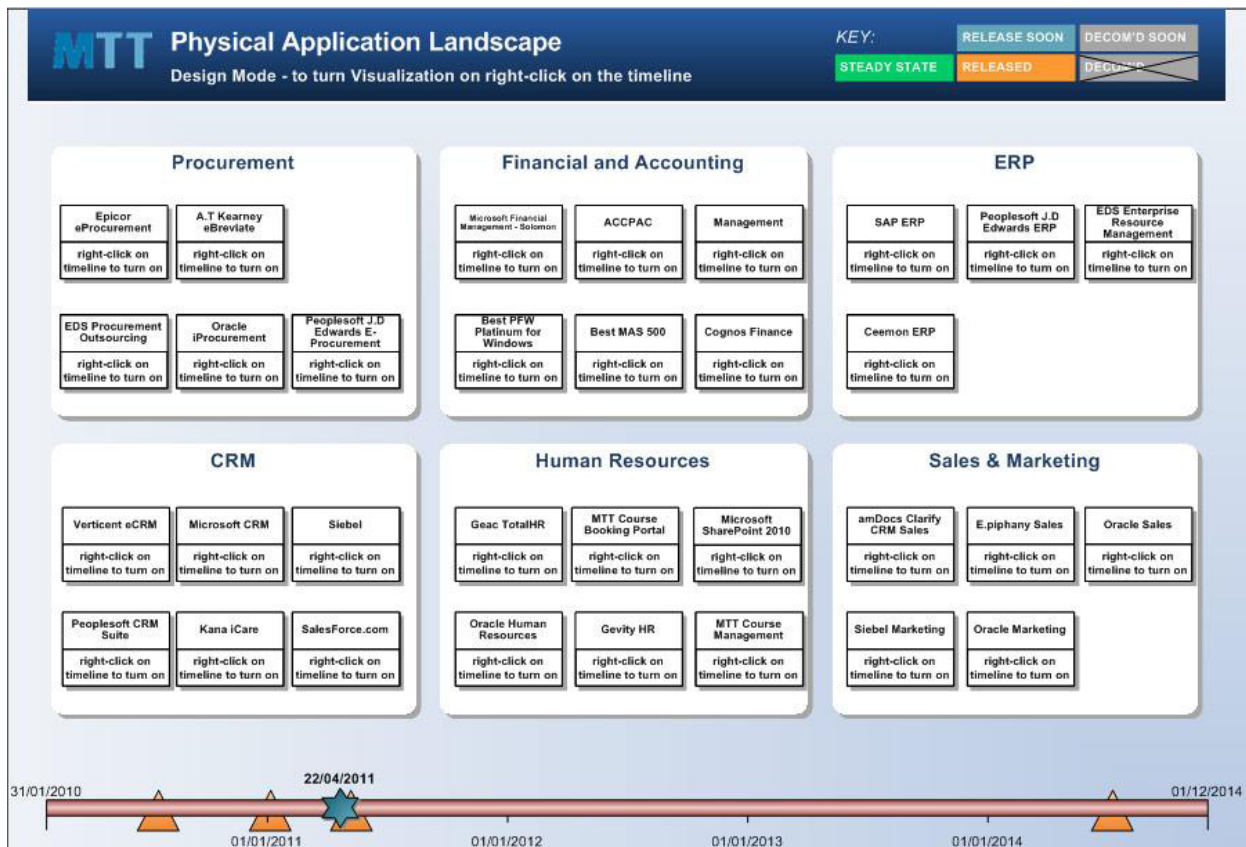


Figure 7: A Physical Application Landscape or 'view'

# Conclusion

In conclusion, I believe that TOGAF is the de facto Enterprise Architecture standard because:

1. The Architecture framework market share is more than 50%, with no real competing framework even close to that level of penetration.
2. No single organization is dictating the direction that TOGAF must take, The Open Group consortium is member driven (350+ organizations) and the membership working on TOGAF is collaborative and inclusive.
3. TOGAF is accessible by non-English speaking architects through translations that is setting TOGAF apart from any other EA framework and linked to local offices across the world, an integrated Architecture Community is being nurtured.
4. 16000+ Architects are TOGAF certified and are using or adapting the standard for use in their organizations.
5. TOGAF is freely available to members and non-members, royalty free, to use to build their own architectures.

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