

Towards new indicators
and repositories for the
mastery of IT processes
and corporate
governance

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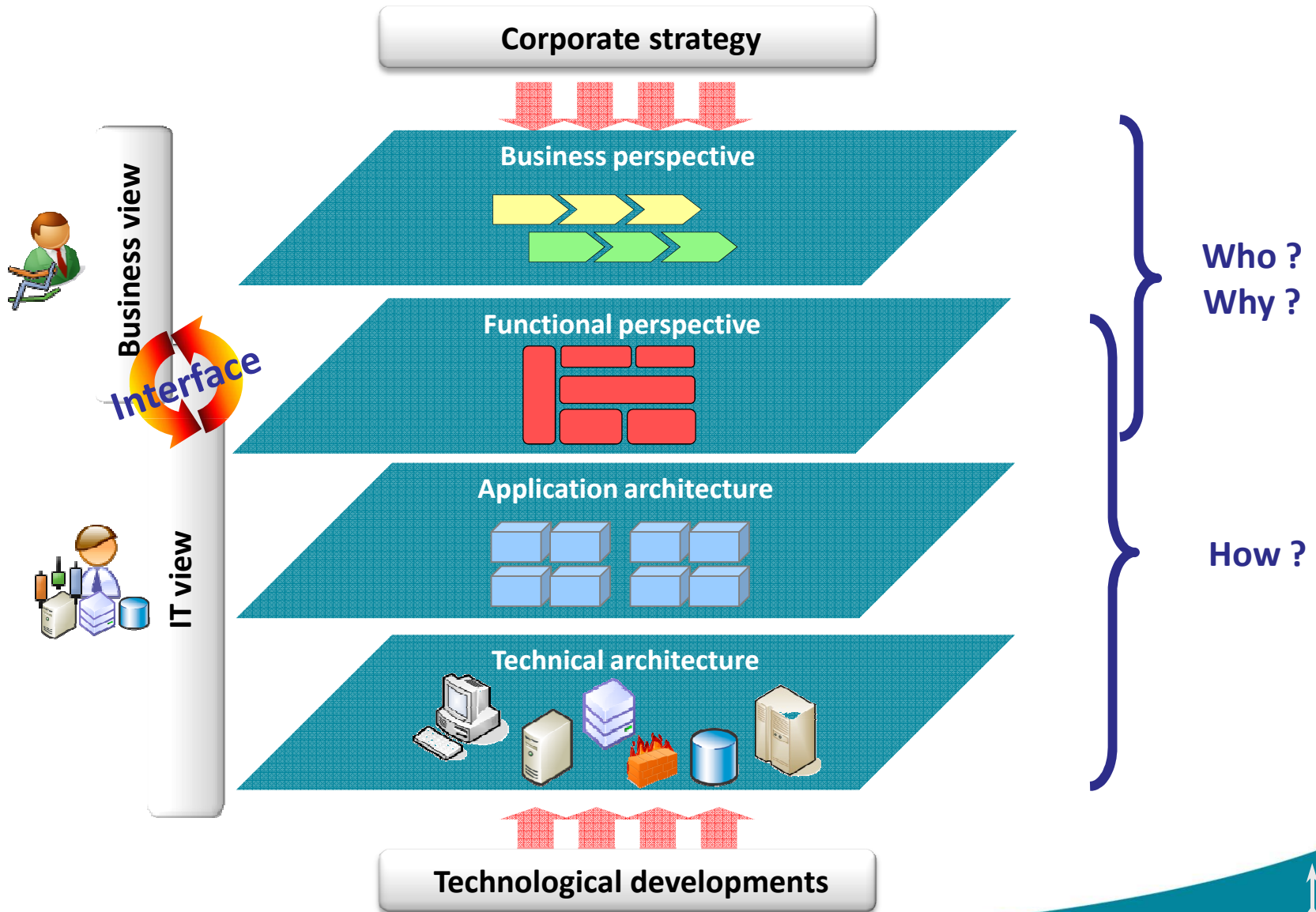
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The 4 layers of enterprise architecture



❖ Business processes (BP)

- ▶ Business process and the expertise of human actors who implement them are at the heart of the enterprise value
- ▶ These business processes are based on partial automation provided by the “application layer” (AL) which acts as a lever of power

❖ Functional layer (FL)

- ▶ Virtual layer whose contents are controlled by functional architects
- ▶ Used to project optimally the BPL in the AL and re-balance the functional blocks based on strategic priorities

❖ IFPUG measurement is particularly dedicated to the measurement of

- ▶ The "application layer"
- ▶ Development projects that create applications
- ▶ Enhancement projects that adapt applications to their ecosystem



- ❖ We have laid the foundation for measurement rules of the "business process layer" (BPL) and the "functional layer" while preserving the IFPUG principles (see ISMA'7 convention slides)
- ❖ We have defined several visions of the BPL measure
 - ▶ Static vision takes into account manual (actions) and automatic (transactional) functional components
 - ▶ Volumetric vision introduces the notion of frequency associated with actions and transactions into the BP, for a period of time
 - ▶ Dynamic vision is governance oriented and takes into account the time needed for the user to achieve one FP
- ❖ The functional layer shows the ideal of what should be automated to ensure consistency of the information system with the objectives of the enterprise
 - ▶ In reality, it is impossible to achieve this state of perfection
 - ▶ But we have proposed to quantify the gap between the ideal and the actual situation using FP measurement



❖ Financial argument between two organisations (government)

- ▶ Two entities merged to realise a common IT solution based on SAP ERP
- ▶ Volumetric measure :
 - ▶▶ 17 macro-processes distributed between 68 BP
 - ▶▶ Common volumetric FP represented 44% of the total amount ,15% given to the first entity, 41% given to the second entity

❖ Losses due to application unavailability (utility)

- ▶ Manual actions and functional transactions
- ▶ Under event pressure (hurricane) , automated functional transaction could switch into automatic differed functional transaction, and worse, manual actions
 - ▶▶ Users totally connected to their work tool loose part of their operational effectiveness
 - ▶▶ Some can perform other duties when their work tool is down. We introduced a new category “differed FP or semi-automated FP” with specific FP’s average execution time
- ▶ Volumetric PF loss is evaluated according to the affected users and duration of the incident. The dynamic view allows to convert lost FP to lost or delayed work time



❖ Staff sizing and change policy (several retirement organisms)

- ▶ We measured 12 BP used to close targeted pension files
- ▶ We sketched 3 scenarios for closing 176100 pension files for the following years
 - ▶ SC1 : 100% “Data entry without initiative Guide” (“DEWGP”) : 712 FTE
 - ▶ SC2 : 20% “Decision proposal” (DP) and 80% “DEWGP”: 499 FTE (214 + 285)
 - ▶ SC3 : 10% “DP”, 30% “Data entry with initiative Guide”, 60% “DEWGP” : 534 FTE (110 + 214 + 210)

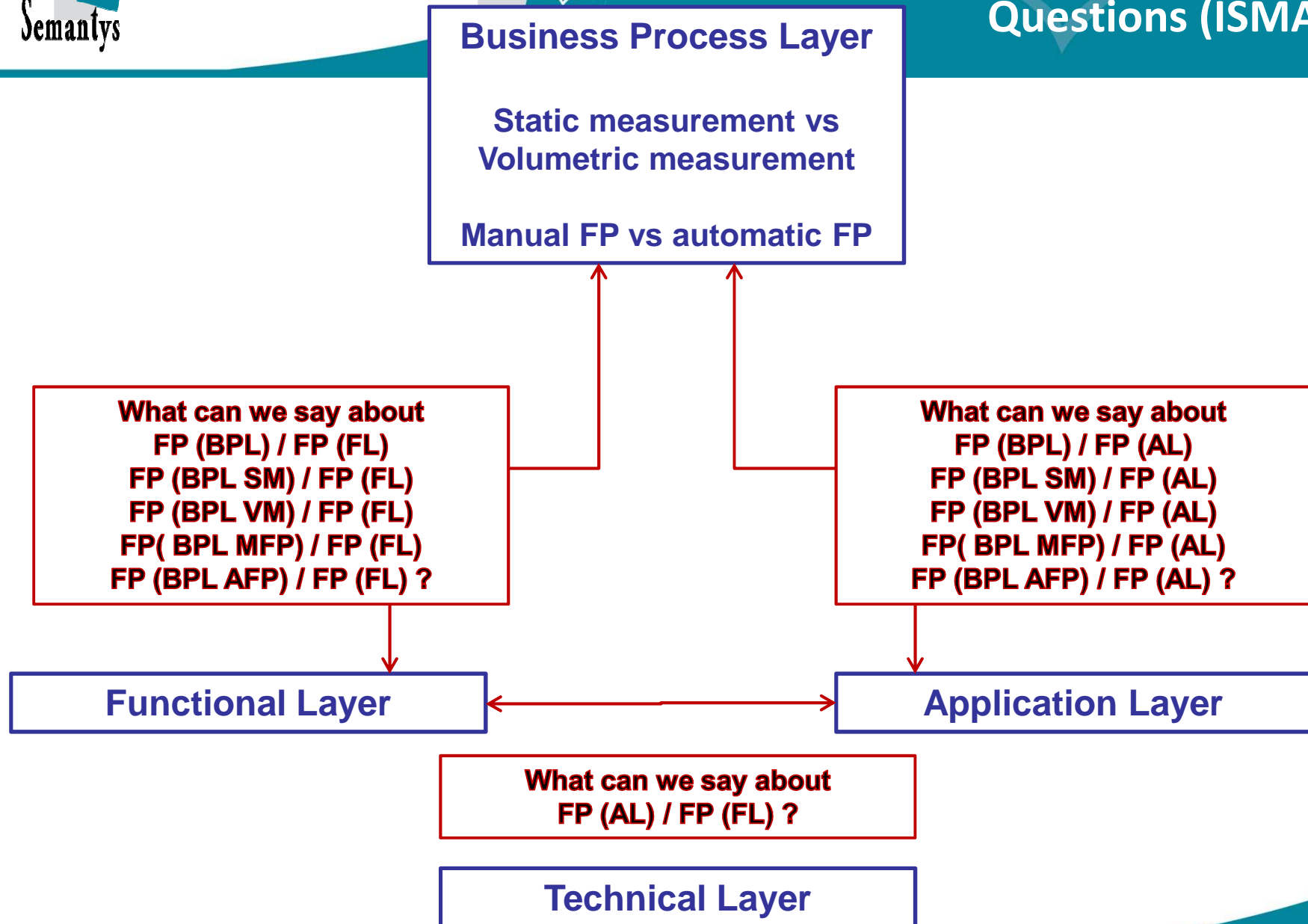
❖ Organization transformation cost (health)

- ▶ Study regarding medical and paramedical staff training costs
- ▶ The effort required to create training material is evaluated based on static measurement of the BP fired by different actors
- ▶ The number of training sessions

$$\frac{(\# \text{ of FP to assimilate by profile}) * (\# \text{ of learners belonging to this profile})}{(\# \text{ of FP learned per day}) * (\# \text{ of learners / session})}$$

- ▶ Generic tool based on BP size, profile-type employee number, maximum availability by profile, learners number by session and profile





- ❖ The ratios between "business process layer FP" and "functional layer FP" express the rate of functional reuse

BPL	(BPL FP / FL FP) Goal compared to FL functional size	Risk
Static FP	MAXimize	MAXimize (if BP are well designed). If this ratio is too high, it may indicate redundancy in the design of BP
Volumetric FP	MAXimize	ditto
Static Automated FP	MAXimize	ditto
Static Manual FP	minimize	minimize. Be careful. The cost of automating certain activities can be too high. You must also maintain manual procedures in case of computer failure

- ❖ The ratios between "business process layer FP" and "application layer FP" express the contribution of IT processes to create business value

BPL	(BPL FP / AL FP) Goal compared to AL functional size	Risk
Static FP	MAXimize	If this ratio is too low, it can mean that the functionalities are duplicated into various applications. If too high, it can indicate that the degree of optimal automation is not achieved
Volumetric FP	MAXimize	ditto
Static Automated FP	must tend towards 1	if too high, can indicate a need for rationalization of the application portfolio
Static manual FP	minimize	minimize. Be careful. The cost of automating certain activities can be too high. You must also maintain manual procedures in case of computer failure.



- ❖ The ratios between “application layer FP” and “functional layer FP” express the rationalization of the application portfolio (common reference data, reusable services, duplication of functionality across multiple applications, etc)

Application layer	(AL FP / FL FP) Goal compared to AL functional size	Risk
number of IFPUG FP	must tend towards 1	If this ratio is too high, it can mean that the functionalities are duplicated across too much applications. If too low, it can indicate that the degree of optimal automation is not achieved (functions asked by users but not implemented)

- ❖ The relationship between the functional dimensions of the layers express either structural balances that should be reinforced or structural imbalances that must be addressed quickly



❖ Measurement process

- ▶ We ask the cooperation of enterprise architects and functional architects while measuring FP
- ▶ We encourage our customers to perform a measurement of the 3 layers (BPL, FL, AL)

❖ Tools

- ▶ We build tools for measuring the 3 layers during the same measurement process, establish and quantify links between these 3 layers

❖ Repositories

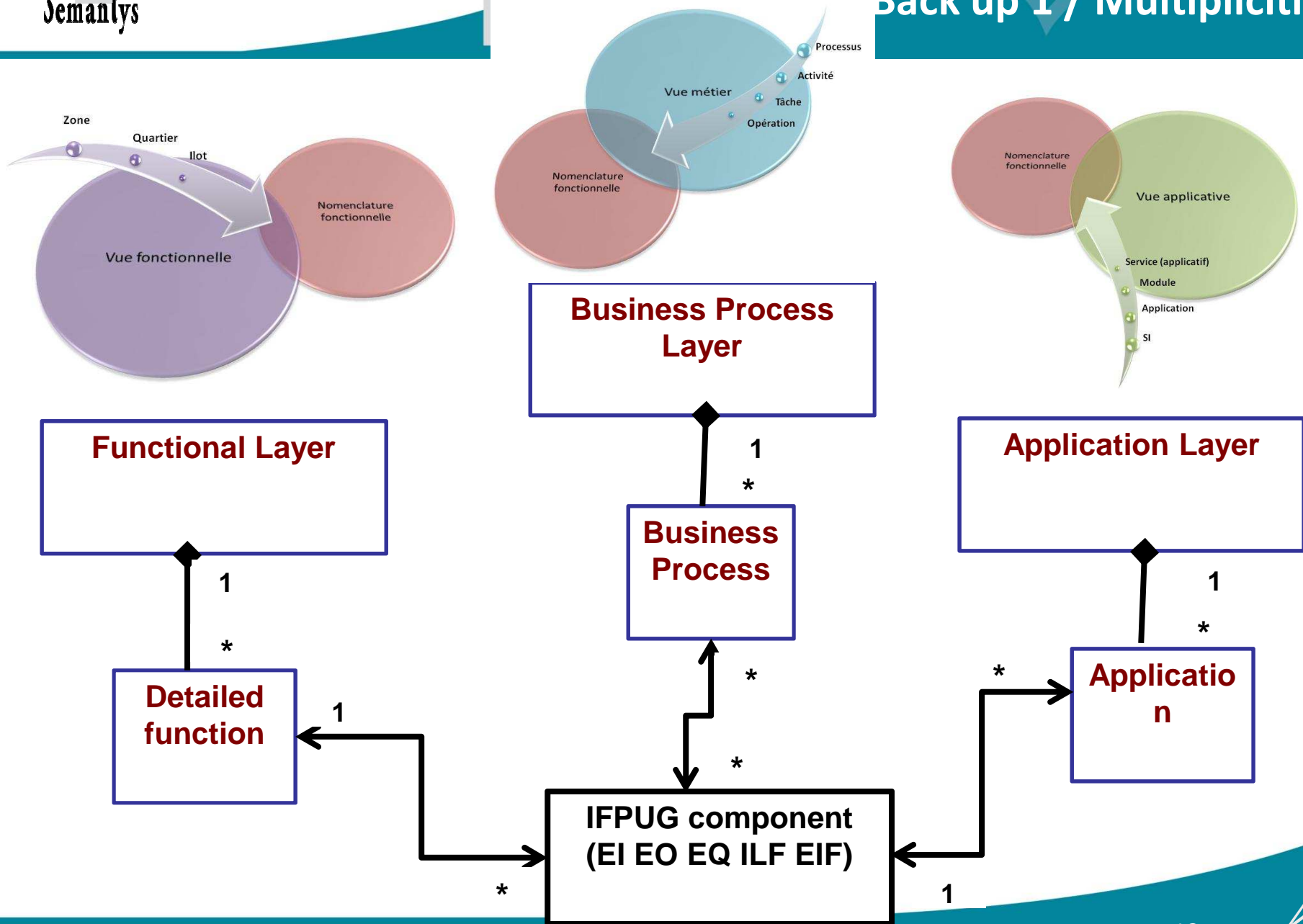
- ▶ We are now building a repository of functional sizes of enterprise architecture components
 - ▶▶ Oriented toward mastery of IT processes (such as the ISBSG repository) and oriented toward corporate governance
 - ▶▶ Must include the automated and manual functions, profiles, frequency of launching the functions, execution time of actions and transactions
- ▶ We encourage our customers to integrate measures of the 3 layers in their repositories

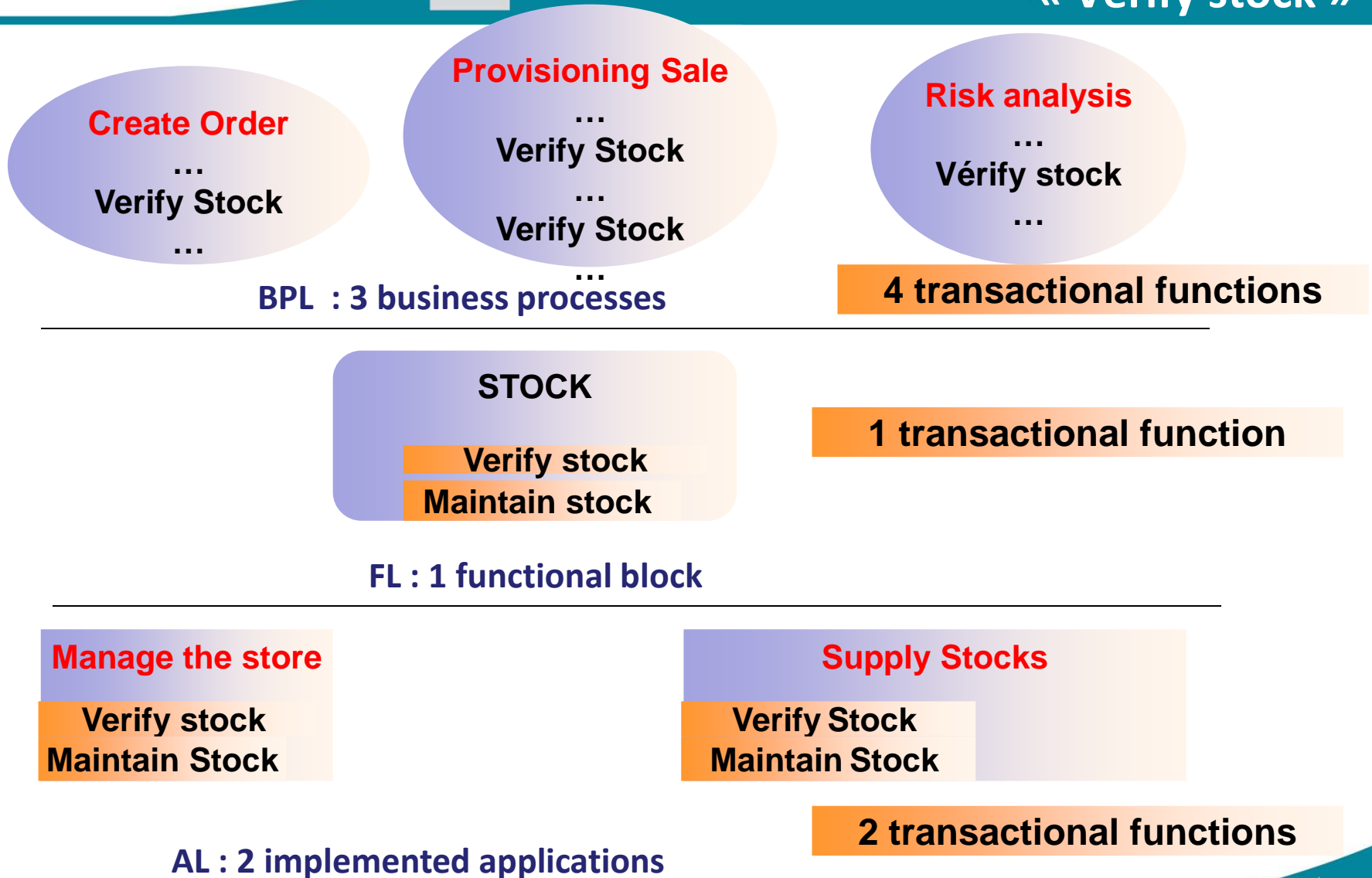


Questions ...

and Answers !







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- ❖ Thanks to Joël André
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