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Gauging Cloud Potential in an Enterprise Landscape

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Abstract: Enterprises are investigating how they can benefit from the increasing availability of cloud technologies. As many business capabilities are already supported by IT, the priority is identification of business capabilities with supporting IT that would be a potential beneficiary of moving to cloud-based solutions. This paper introduces a heuristic methodology which identifies cloud-compatible business capabilities and cloud-candidate applications. It is a KPI-based step-by-step approach in which the different service models (SaaS, PaaS, and IaaS) are considered. A first assessment pass identifies the business capabilities potentially benefiting from the cloud. A second pass examines and evaluates the currently existing or planned applications delivering functionality for these business capabilities to find cloud deployment candidates. Several dimensions like business acceptance, compliance requirements or data security aspects are taken into account when assessing if an application is a "good" cloud-candidate or not.

1 Introduction and Motivation

Mid-sized and large enterprises suffer from enormous pressure due to running IT costs. The ratio of operational costs to investments tends towards higher operational costs to the detriment of programs and projects which benefit the business [MuCu08]. Under such conditions, who does not yield to the temptation of service providers promising the reduction of overall IT costs or the replacement of upfront infrastructure investment with a presumably low monthly bill?

And these are not the only promises from service providers which are offering cloud solutions for enterprises. They claim that applications and infrastructure can be deployed much faster than with traditional approaches. Furthermore, they promise capacity "on-demand" including taking over full responsibility for providing the necessary hardware and software. In short: A paradise for large IT organizations: instant scalability rather than long-winded procurement processes, agility without having to hold expensive skills and resources, fast delivery of IT services without skyrocketing operational costs.

Apart from the cost dimension other factors play an important role when considering cloud options. Firstly, how palatable is a cloud sourcing strategy to business? Does the business agree with the hosting of business critical applications by third party service providers? Secondly, and even more critical, is the topic of data security. The near-, on- or offshore activities of large companies have shown that legal requirements and operational practices must be considered when implementing a cloud strategy. Avoiding the use of software as a service (SaaS) for critical or sensitive data remains a significant form of risk control for many organizations [He12]. Thirdly, how viable is the technological offering and how compatible is with the current technology strategy of the enterprise? For instance in a Platform as a Service (PaaS) situation: can the established application platform be supported in such a cloud deployment or will it require a platform redesign? Will a cloud deployment involve technologies that had been banned in the enterprise for valid reasons? Can the same technology platform be used across a larger number of applications thus creating additional economies of scale?

Numerous questions have to be answered to find cloud candidates among all the applications of the enterprise. So, where to begin? Considering all applications it could be like looking for a needle in a haystack. That will be time consuming without guaranteeing success. Thus, a bird eyes' view is recommended to discover promising areas suitable for a more detailed cloud assessment.

Based on the hypothesis that a top-down approach is appropriate to identify cloud candidates our heuristics first identifies business capabilities which are relevant for the business in sense of a change need. Then it is evaluating their compatibility with regards to cloud concepts and finally it dives down into the applications providing support for the business capabilities to estimate their potential to be replaced by a cloud solution.

2 Definitions and Basics

This section defines basic terms which are necessary for the further understanding of the approach. The next three paragraphs refer to cloud infrastructure usage models as discussed in [MeGr11]:

Software as a Service (SaaS): The capability provided to the consumer is to use the provider's applications running on a cloud infrastructure. The applications are accessible from various client devices through either a thin client interface, such as a web browser (e.g., web-based email), or a program interface. The consumer does not manage or control the underlying cloud infrastructure including network, servers, operating systems, storage, or even individual application capabilities, with the possible exception of limited user-specific application configuration settings.

Platform as a Service (PaaS): The capability provided to the consumer is to deploy onto the cloud infrastructure consumer-created or acquired applications created using programming languages, libraries, services, and tools supported by the provider. The consumer does not manage or control the underlying cloud infrastructure including

network, servers, operating systems, or storage, but has control over the deployed applications and possibly configuration settings for the application-hosting environment.

Infrastructure as a Service (IaaS): The capability provided to the consumer is to provision processing, storage, networks, and other fundamental computing resources where the consumer is able to deploy and run arbitrary software, which can include operating systems and applications. The consumer does not manage or control the underlying cloud infrastructure but has control over operating systems, storage, and deployed applications; and possibly limited control of select networking components (e.g., host firewalls).

Furthermore, we define an *application* as a fully-functional integrated IT product that provides business functionality to end users and/or to other applications. As such, an application supports the business to accomplish a business outcome.

In addition to this we also need to define the term *business capability*: A business capability is an abstract description of "What" needs to be done in an enterprise to meet its business objectives, to support the business model and to implement a viable operating model. Capabilities are comparatively stable and business capability models are similar for enterprises in the same business sector. [Mi06]

Within this context also the term *business capability map* is important: The business capability map is a representation of the business capability model containing all functional abilities a business needs to execute its business model and to fulfil its mission [Sc09]. Business capability models are structured hierarchically and the highest hierarchy level usually contains 5 to 15 capabilities.

3 Approach

It is common that mid-sized enterprises have several hundred applications in use, while large and global enterprises can be working with several thousand applications. Therefore, it would not be advisable to proceed on an application by application basis and evaluate the cloud-potential for every application in detail. The reason for this is that such an evaluation is time consuming and expensive. Hence, we propose use of a telescoping approach to identify promising cloud-compatible business capabilities and cloud-candidate applications by using a KPI-based heuristic methodology. This methodology will result in a sub-set of business capabilities and only the existing or planned applications supporting these capabilities will be evaluated in further detail for their cloud-potential.
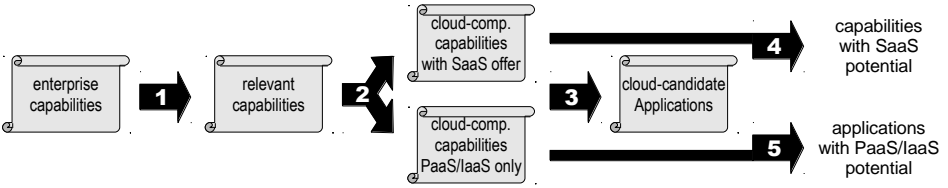
Figure 1: Schematic overview of the approach.

As shown in Figure 1 the approach has five steps with Step 4 and Step 5 generating final results while Step 3 is providing only intermediate insight requiring further investigation to determine how much of the application landscape currently supporting a candidate business capability can be replaced with the SaaS offering at hand. In other words: SaaS offerings should not be limited to a perspective of replacing just a single application but considered as the premise for the transformation of an entire segment of the application landscape. The reason for this is that SaaS applications are usually tailored along common business capabilities and thus it is useful to question all applications supporting such a business capability once the decision for a SaaS migration has been taken.

3.1 Identification of relevant business capabilities

The first pass of the assessment starts with the set of all business capabilities C_{ALL} of the enterprise at a given level of detail (usually level 2 or 3 within the hierarchy of the business capability map). It is conducted with the following three indicators, with $c \in C_{ALL}$:

- *Change Strategy* is a qualitative indicator and values are provided by the business strategist. It specifies if the business wants to change the business capability for example because business sees the need to invest more into new functionalities or because business sees the needs to do some investments to simply reduce costs by providing existing functionalities more cost effectively. This indicator is defined as follows: 1 represents a "no change need" value, 2 a "minor change need", 3 a "change need", 4 a "major change need", and 5 a "critical change need" value: $I_{CS}(c) \in \{1,2,3,4,5\}$

- *Market Differentiation* is a qualitative indicator comparing the business and operating model of the enterprise with its competitors, which means it is usually derived from the enterprise strategy. It specifies how unique the implementation of a business capability in the enterprise is or should be in the market. For example: most enterprises will evaluate support capabilities like "Logistics" with a rather low value for market differentiation. However, if the enterprise is a logistics provider it will firstly consider "Logistics" a top-level business capability and give some of its subordinate business capabilities a high value for market differentiation as these are fundamental for the competitive positioning in the market. This indicator is defined as follows: 1 represents a "very low" value, 2 a "low" value, 3 a "medium", 4 a "high", and 5 a "very high" value: $I_{MD}(c) \in \{1,2,3,4,5\}$

- *Application Costs* is a quantitative indicator on the business capability which for companies having a mature enterprise architecture can be derived from the summarized cost of the supporting applications (e.g. for the last full year). If this information is not available a top-down assessment can be used. The indicator is defined as: $I_{AC}(c) \in \mathbb{R}_{\geq 0}$

The Cloud Relevance Score S_{REL} for a business capability is defined as follows:

$$S_{REL}(c) = \sqrt{I_{CS}(c)} + \sqrt{6 - I_{MD}(c)}$$

The first step of the methodology should return an ordered list of capabilities. This ordering is attained by adopting a reverse lexicographic ordering for the tuples:

$$(S_{REL}(c), I_{AC}(c))$$

This results in an ordering where capabilities with the lowest market differentiation and the highest change strategy are at the top positions (keeping in mind the reverse ordering this means low position numbers). Within these top positions, capabilities with the higher costs are positioned at a lower position than those with the lower costs (reverse order). The rationales behind using this ordering logic and the above described relevance score are:

- The search should focus on business capabilities which have a high change need rating, since this is where business is willing to spend money for improvements possibly including migration to a cloud-based solution.

- Business capabilities with a high market differentiation should be positioned towards the bottom since they tend to be critical for the enterprise strategy and they make the difference towards competitors. Putting such applications into the cloud creates potentially risks with regards to the future of the business and therefore such applications need a detailed analysis of their cloud-capability. Hence, the coming to a decision may already be a considerable investment.

- The square root operation for the individual indicators is used when calculating the relevance score to favour middle-of-the-road cases over outliers, i.e., behave like a wave frontier with balanced indicator combinations like, for example, a combination of $I_{CS}(c) = 3$, $I_{MD}(c) = 3 \implies S_{REL}(c) \cong 3.5$ taking preference over unbalanced ones like, for example, a combination of $I_{CS}(c) = 1$, $I_{MD}(c) = 1 \implies S_{REL}(c) \cong 3.2$.

- Finally, business capabilities with identical relevance score S_{REL} are sorted by application costs based on the observation that more expensive applications typically result in higher savings opportunities when turned into a cloud deployment.

With these definitions the set of relevant business capabilities $C_{REL} \subset C_{ALL}$ can be derived. It is recommended that only capabilities with $S_{REL}(c) > 3.3$ are taken into the

set of relevant capabilities to make sure the assessments are above average. If $S_{REL}(c) \leq$ 3.3 then change strategy and market differentiation cannot be higher than value 3, which means their change relevance is too low to justify further evaluation. Depending on the overall strategy it might be valuable to be even more restrictive, for example by removing business capabilities with very low application support costs to avoid spending time and resources optimizing the application support for business capabilities with an acceptable cost performance ratio.

3.2 Identification of cloud-compatible capabilities

The list of relevant business capabilities shall be further reduced by applying another assessment measuring the cloud-compatibility of the business capabilities $c \in C_{REL}$. The following indicators are used for this assessment:

- *Cloud Potential* is a qualitative indicator to be provided by the architecture team for the business capability. It represents a rough estimation with regards how much technical potential the architects see by migrating some of the existing or planned applications supporting the business capability into the cloud. For example, some business capabilities might deal with critical data resulting in a reduced cloud potential. Other business capabilities might benefit from a fresh look at standard functionalities available as currently implemented business supports are no longer meeting commonly accepted standard practice. This indicator is defined as follows: 1 represents a "very low" value, 2 a "low" value, …, and 5 a "very high" value: $I_{CP}(c) \in \{1,2,3,4,5\}$

- *Cloud Affinity* is a qualitative indicator to be provided by the business responsible for the business capability. It represents the affinity of the business towards the idea of supporting the entire business capability or significant parts thereof with cloud technology. For example, for some business capabilities business might see great potentials for improvement of the reliability and scalability of relevant business processes at an acceptable cost by moving applications into the cloud. This indicator is defined as follows: 1 represents a "very low" value, 2 a "low" value, …, and 5 a "very high" value: $I_{CA}(c) \in \{1,2,3,4,5\}$

- *SaaS Offers:* This quantitative indicator represents the availability of related SaaS offers in the market. At this point a detailed assessment of fit and suitability for such offerings are not of primary relevance. Rather the focus should be on the number of offerings available and known to the architecture team for the business capability. The indicator is therefore defined as: $I_{SO}(c) \in \mathbb{Z}_{\geq 0}$

The Cloud Compatibility Score S_{COM} for a business capability is defined as follows:

$$S_{COM}(c) = \sqrt{I_{CP}(c)} + \sqrt{I_{CA}(c)}$$

Similar to the first step the heuristics should return an ordered list of business capabilities. Again a reverse lexicographic ordering is used this time for the tuples:

$$(S_{COM}(c), I_{AC}(c))$$

This results in an ordering where business capabilities with the highest cloud potential and the highest cloud affinity take the top positions thereby matching a solid technical perspective with qualified business expectations for a resulting improvement of the IT support for the business capability. As a consequence, these business capabilities warrant the efforts of taking a closer look at the applications associated with these capabilities. This selection approach will also help avoid resistance from business and architecture stakeholders. Similar to the approach in the preceding step, the costs for the applications associated with a business capability are used as secondary sort criterion in case of a tie in ordering based on $S_{COM}(c)$.

With these definitions the set of relevant business capabilities $C_{COM} \subset C_{REL}$ can be derived. Again, it is recommended that only capabilities with $S_{COM}(c) > 3.3$ are considered for further assessment and consideration. Depending on the overall strategy it might be valuable to be even more restrictive and reduce the set of relevant business capabilities even further.

At this time the indicator $I_{SO}(c)$ qualifying the availability of SaaS offerings has not been used. It will be included in the assessments of Step 4 helping to discern business capabilities with viable SaaS offers from those where such offers do not exist.

3.3 Identification of cloud-candidate applications

The selection of cloud-compatible business capabilities facilitates a closer look at the applications themselves. With $A(c) \subset A_{ALL}$ being the set of applications supporting business capability c the set of planned or active applications supporting the cloud-compatible capabilities is defined as:

$$a \in \left\{ \bigcup_{c \in C_{COM}} A(c) \right\}$$

Ideally this is a much more manageable list comprising only a few dozen applications. Each application a is assessed with the following indicators:

- *Cloud Affinity* is a qualitative indicator provided by the business role responsible for an application. It represents the affinity of the business towards the idea of replacing/reimplementing the application with cloud technology. This indicator is defined as follows: 1 represents a "very low" value, 2 a "low" value, ..., and 5 a "very high" value: $I_{CA}(a) \in \{1,2,3,4,5\}$

- *Affecting Regulations* is a qualitative indicator provided by the business role responsible for the application in cooperation with the application architect. It

represents the impact that compliance rules and regulations have on the application. Such rules are often derived from national or international laws such as "Sarbanes-Oxley Act (SOX)" in the US, the "Bundesdatenschutzgesetz (BDSG)" and the "Bilanzrechtsmodernisierungsgesetz (BilMoG)" in Germany, the EU MiFID directive or the "Basel Accords (Basel I, II, III)" agreed upon and issued by the Basel Committee on Banking Supervision. This indicator is defined as follows, while 1 represents a "not affected" value, 2 a "low affected" value, …, and 5 a "very much affected" value: $I_{AR}(a) \in \{1,2,3,4,5\}$

- *Usage Variations* is a qualitative indicator representing the variations in usage of an application over time. It aims at capturing the difference in load levels resulting from the use of the application during the peak usage periods and the low usage periods. This assessment will likely require the use of a proxy measure like user count, transaction number, process execution frequency, etc. This indicator is defined as follows: a value of 1 represents a situation with "low and peak usage loads are about equal", a value of 2 represents a situation where "the difference between low usage and peak usage is in the range of 1 to 100", a value of 3 represents a situation where "the difference between low usage and peak usage is in the range of 1 to 1000", a value of 4 represents a situation where "the difference between low usage and peak usage is in the range of 1 to 10.000 and 90% of time the load is less than 10 times low usage", and the value 5 represents a situation where "the difference between low usage and peak usage is in the range of 1 to 1.000.000 and 90% of time load is less than 10 times low usage" value: $I_{UV}(a) \in \{1,2,3,4,5\}$

- *Data Classification* classifies the data and content of the application and should be provided by the application architect. Naturally applications might process different data with different classifications; in this case you should apply the most restrictive evaluation. It is a qualitative indicator defined as follows: while 1 represents the processing and storage of "strictly confidential or personally identifiable information", 2 represents the processing and storage of "personal information", 3 represents the processing and storage of "confidential information", 4 represents the processing and storage of "internal information", and 5 represents that only "public information" is stored and processed: $I_{DC}(a) \in \{1,2,3,4,5\}$

- *Interface Density* reflects the number of interfaces of the application as a qualitative indicator. A qualitative indicator is advised here, because the absolute number of interfaces has not much meaning outside its enterprise context. Depending on the enterprise and the granularity of measurement a number of interfaces of an application can be considered high in one enterprise while it is low for another enterprise. Therefore, to be formally correct the quantitative number of interfaces of an application has to be put into relation to the number of interfaces of all the other applications. Since gathering this information for all applications can be expensive it is useful to trust on a qualitative evaluation of the expert. This indicator is provided by the

application architect and defined as follows: 1 represents a "very low" value, 2 a "low" value, …, and 5 a "very high" value: $I_{ID}(a) \in \{1,2,3,4,5\}$

- *Functionality Gap* is evaluated by business and specifies how the business perceives the functionality of the application. Does it satisfy all needs or are there issues open which should be addressed in the future? It is a qualitative indicator and it is defined as follows, while 1 represents a "very low" value, 2 a "low" value, …, and 5 a "very high" value: $I_{FG}(a) \in \{1,2,3,4,5\}$

- *Scalability Gap* is evaluated by the application architects and specifies the perceived scalability of the application in comparison to the scalability needed taking the past experiences with the applications performance into account. It is a qualitative indicator defined as follows, while 1 represents a "very low" value, 2 a "low" value, …, and 5 a "very high" value: $I_{SG}(a) \in \{1,2,3,4,5\}$

- *Incidence Risk* is evaluated by business and qualifies how the incidents tracked for an application have been perceived by the business. This is not about the simple issues count, it is about how the business noticed and perceived the issues. Did the incidents caused major costs or rework for the business in the past? The qualitative indicator is defined as follows: 1 represents a "very low" value, 2 a "low" value, …, and 5 a "very high" value: $I_{IR}(a) \in \{1,2,3,4,5\}$

- *Operational Costs* is a quantitative indicator on the application representing the cumulative cost of the application (e.g. for the last 12 months). In case this information is not available an estimate should be used. The indicator is defined as: $I_{OC}(a) \in \mathbb{R}_{\geq 0}$

The Cloud Candidacy Score S_{CAN} for an application is defined as:

$$S_{CAN}(a) = \sqrt{I_{CA}(a)} + \sqrt{6 - I_{AR}(a)} + \sqrt{I_{UV}(a)} + \sqrt{I_{DC}(a)} + \sqrt{6 - I_{ID}(a)} + \sqrt{I_{FG}(a)} + \sqrt{I_{SG}(a)} + \sqrt{I_{IR}(a)}$$

This results in applications having a higher score Cloud Candidacy Score if the following is true:

- Applications with a high Cloud Affinity value I_{CA} are more favourable than those with a low cloud affinity.
- Applications affected heavily by regulations are bad cloud candidates because adherence to regulations is more difficult to control for applications deployed in the cloud. Therefore applications with a low score for Affecting Regulations I_{AR} are rated higher.
- Applications with high Usage Variation score I_{UV} are more favourable than those with flat usage patterns as they can benefit from the flexibility and ease of scaling cloud environments provide.
- Applications with tight data security constraints, i.e., a low Data Classification score I_{DC} are less favourable than those which process and store only public information, i.e., a high value for I_{DC}.

- A large number of integration touch points complicate the deployment in a cloud environment unnecessarily. Hence, a lower score for Information Density I_{ID} is favoured.
- Migrating applications into a cloud environment might be more palatable in case business users are not satisfied with the incumbent functionality. Hence, a large value for the Functionality Gap I_{FG} results in a higher rating.
- Easy of scalability is one of the more important arguments for cloud deployments. Consequently: a high value for the Scalability Gap I_{SG} is resulting in a higher rating.
- High incidence rates result in business disruption and business user dissatisfaction. Hence, a large value for the Incidence Rate I_{IR} is considered favourable for the Cloud Candidacy assessment.
- The square root operation is used for the individual indicators when calculating the relevance score to soften the effect of outlier scores (an argument already used in previous steps).

3.4 Find business capabilities with SaaS potential

The assessment of business capabilities for their cloud compatibility in Section 3.2 and the evaluation of associated applications for their cloud candidacy in Section 3.3 shall be combined to identify those business capabilities that demonstrate a high potential for a SaaS-based deployment of a standard software offering (either completely or partially). The resulting business capabilities should be funnelled into a more thorough assessment as often associated applications are rendering support for multiple business capabilities. Thus, the replacement of functionality required for one business capability may result in the carve-out of said functionality from an incumbent application rather than a complete retirement of the latter.

To identify capabilities with SaaS potential an additional "SaaS-Potential Score" is defined for all business capabilities with SaaS offers available and known, i.e., $c \in C_{COM} : I_{SO}(c) \geq 1$. The indicator S_{SaaS} is computed as the average of the Cloud Candidacy Scores S_{CAN} for all applications assigned to the business capability, i.e.,:

$$S_{SaaS}(c) = \frac{\sum_{a \in A(c)} S_{CAN}(a)}{|A(c)|}$$

Here $|A(c)|$ denotes the number of applications associated with the business capability.

Business capabilities are ordered by the SaaS-Potential. The business capabilities with the highest SaaS-Potential Scores should be subject to a more detailed analysis. Specifically, those applications associated with the business capabilities showing the highest Cloud Affinity I_{CA} should be further inspected and assessed to determine which, if any, of the SaaS-offers available in the market for this business capability would provide for a sufficient match in functionality provided. This would necessarily be subject of a separate assessment project requiring a notional amount of funding (typically a few person weeks).

3.5 Find applications with PaaS or IaaS potential

Different to the assessment for SaaS-Potential discussed in Section 3.4 the influence of the supported business capability is negligible when assessing for PaaS/IaaS-Potential. However, it is advised that business capabilities that are subject to an assessment for SaaS-Potential be excluded from the discussion about PaaS/IaaS-Potential as this would otherwise result in a conflict in strategy.

The technical characteristics and risk profiles of the applications are the dominating factors for an assessment for PaaS/IaaS-Potential. Hence, applications from Step 3 – excluding those handled in Step 4 – are ordered by their Cloud Candidacy Score S_{CAN} and their Operational Cost I_{OC}. In other words, the tuple

$$(S_{CAN}(a), I_{OC}(a))$$

are ordered in reverse lexicographic order. In case of a tie for the Cloud Candidacy Score S_{CAN} the applications with higher Operational Cost I_{OC} are favoured. This is justified by the cost reduction potential of a PaaS or IaaS solution which is typically higher when the current application costs are higher.

Top ranking applications in the resulting list should be analysed in more detail to determine whether a reimplementation or re-design of the platform are required for a PaaS or IaaS deployment and if so whether the cost would be warranted by the expected savings and gain in scalability and reliability.

4 Execution

A business IT management solution like alfabet's planningIT[1] is a valuable basis to support, orchestrate and govern the execution of such an assessment of business capabilities and applications. The business IT management solution provide additional value by establishing a collaboration platform connecting the many stakeholders contributing to the assessment, by promoting a common set of terms and definitions, and by fostering a commonality in the approach across this widely distributed and often disconnected set of stakeholders. Many enterprises with a business IT management foundation use business capability maps as a means of communication between different business stakeholders as well as business and IT departments. Thus, the cloud potential assessment discussed in this paper can leverage the existing set of business capability maps. Furthermore, some of the indicators used in this assessment, like operational costs for application or market differentiation and change strategy for business capabilities, are likely to already be used for other purposes like strategy or program portfolio management.

Furthermore, planningIT supports the process of gathering the assessment data for the various objects. The roles of application architect for applications and business analyst

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[1] planningIT is a trademark of the alfabet company: http://www.alfabet.com/en/offering/product

for business capabilities are standard elements in the planningIT information model and facilitate automated identification of these critical stakeholders and automated assignment of the relevant assessment tasks to them. Automated status and completion tracking as well as inbuilt reporting support the project manager for the cloud potential assessment throughout the assessment process making sure it is completed in a timely manner and that it generates actionable results.

The assessment could be expanded to include voting strategies in case subject matter experts do not feel qualified to provide a judgement based assessment, e.g., when assessing the Cloud Compatibility of business capabilities or the functionality gap of applications. Rules can be defined to aggregate the voting results into the relevant scores.
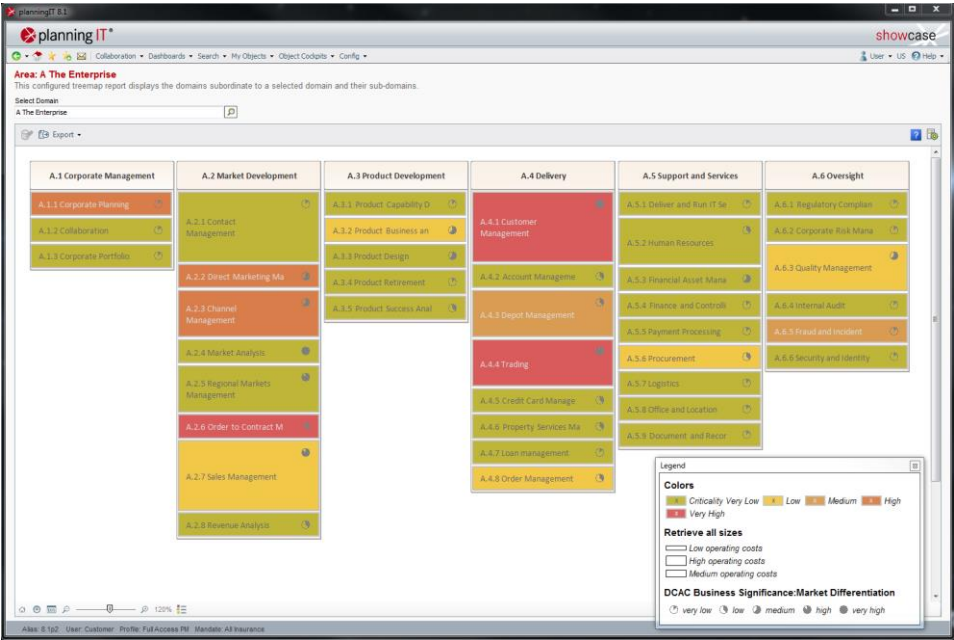

Figure 2: A capability map visualization with indicators in planningIT.

Finally, planningIT provides a powerful set of reporting capabilities to help aggregating information, contextualizing it with other decision relevant information elements and presenting the results in a form that is readily usable for decision making by senior managers. planningIT also supports the communication of the decisions taken thereby resulting in higher reliability and traceability and assuring necessary actions are put into motion.

5 Summary

This paper has presented a step-based heuristic methodology to identify cloud-compatible business capabilities and cloud-candidate applications. A step-based

approach is preferred in this context because of two reasons: Firstly, it provides a sieve-effect allowing elimination of ill-suited objects as early as possible thereby reducing the efforts of assessment considerably. Secondly, it is recommended that business capabilities and applications are considered separately as SaaS solution choices are affected by business capability considerations whereas PaaS and IaaS solutions are more capability-agnostic and technology oriented. A concluding outlook outlined how this assessment approach can be fully supported and orchestrated in a business IT management solutions like alfabet's planningIT. Our next steps are the application of this approach in the context of planningIT application portfolio management evaluating of this approach in the practice with our customers.

References

[He12]   Heiser, J.: Survey Analysis: Assessment Practices for Cloud, SaaS and Partner Risks, 2012. Gartner, 2012.

[MeGr11] Mell, P.; Grance, T.: The NIST Definition of Cloud Computing – Recommendations of the National Institute of Standards and Technology. NIST, Special Publication 800-145. http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf

[MuCu08] Murphy, P.; Cullen, A.: Budget Adjustments For CIOs In Lean Economic Times – What To Cut And What Not To Cut When The Budget Ax Must Fall. Forrester 2008.

[Mi06]   Microsoft Motion – Heat Mapping Tool. Microsoft 2006.
           http://blogs.microsoft.co.il/files/folders/2034/download.aspx

[Sc09]   Scott, J.: Business Capability Maps: The Missing Link Between Business Strategy and IT Action. Architecture & Governance magazine 2009.
           http://architectureandgovernance.com/content/business-capability-maps-missing-link-between-business-strategy-and-it-action