

The Truth about Managing License Compliance in the Data Center

Whitepaper – Executive Edition

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1 MANAGEMENT SUMMARY

Effective management of your software license compliance mitigates your financial risks, but also provides you with transparency to exploit cost savings potential. This is not only true for your workplaces – laptops and desktops – but even more the case for your data center. Investments and recurring costs for software are usually much higher for server applications. Accordingly, you should put license management for your data center on your roadmap for Software Asset Management.

If you are familiar with how to approach and manage license compliance for your workplaces you might think that doing it for the data center is quite the same thing. Unfortunately, it isn't. While it is different, it doesn't make it impossible. In order to address the problem successfully, you have to address the peculiarities as there are:

- ▶ Licensing metrics are proprietary and complex, usually changing frequently over time
- ▶ Technological inventory is harder to collect due to proprietary license metrics and 1:n relation cardinality between application instance and the software products for which compliance is measured
- ▶ Commercial Inventory comprises ambiguous terms or individual but vague side agreements, as well as complex purchase history due to frequently changing licensing metrics

Keeping server license management feasible means that a high degree of automation is required. This starts with automated scanning of your data center,

considering numerous requirements specific for the data center on one side and vendor specific licensing terms on the other side. Therefore you definitely should consider implementing a best of breed server discovery solution, rather than attempting to force-fit existing desktop scanning tools or, worse, maintaining a collection of scripting solutions that will be very hard to manage over the time.

Although scanning is a challenge and licensing metrics/terms are proprietary, accounting of license compliance follows the same mechanisms and uses the same capabilities you are using to reconcile compliance for desktops with Matrix42 License Management. This is the good news.

The primary key to success is to apply a best practices project template, with defined steps in different phases, which first build your foundation and then run the iterative "Incubator" model for all the vendors you have in scope. This procedure will address all of the special questions of license compliance for a specific vendor, define the reconciliation process and come up with the initial state of compliance that will be maintained during standard operations.

Important to mention at this point is that you should take care that your change management process is aligned to assess impact of any technical or commercial change on compliance in a just-in-time fashion. This is prerequisite to avoid unnecessary costs. At the same time, it is important that you frequently conduct internal audits to ensure quality and sustainability of your respective processes, possibly optimizing them by reviewing the findings of internal scrutinizing.

2 ADD DATA CENTER COMPLIANCE TO YOUR SAM ROADMAP

Software Asset Management (SAM) isn't the easiest thing to do. This is – to be honest – a pure understatement. Those of you who have been managing license compliance for years, successfully, may oppose. However, Software Asset Management is one of a kind – at least in the world of IT, where challenges usually are based on technical matters. Management of license compliance is different comprising disperse array of aspects: legal issues, agreements, contracts, installation media, ways of deployment, virtualization, access rights, master data and last – but not least of all – organization of roles, responsibilities and processes. This list is likely incomplete, but contains the most important areas of concern when managing license compliance.

Software Asset Management, like financial accounting is crucial for your organization to fulfill different essential goals like reporting to stakeholders, assuring positive cash flow, optimizing taxes of all kind, proving compliance with legal regulations and providing transparency about commercial health. Software Asset Management is very much a part of it. Active management of financial risk is a demand from several legal sources. Failing license compliance may result in significant risks that you should know about and take appropriate actions against, as soon as possible.

The point here is that you should definitely add your data center as a target area to your SAM roadmap. But don't start with it. Being aware that license compliance is a complex challenge – and just like financial accounting – involves almost anyone working in your

organization, it is a Best Practice to start with your desktops in order to understand how to manage compliance with relatively easy metrics – per device or per user. Understand which roles are required and what the responsibilities are for those roles. Give people, that fill those roles, a chance to learn and develop a personal experience, provide training resources and invite external domain experts to help them whenever appropriate.

Finally – when you are confident that you have gained a certain level of maturity with SAM – turn your attention to the data center and start to control costs and risks from software there.

3 UNDERSTAND WHY IT ISN'T JUST 'SIX OF ONE AND HALF A DOZEN OF ANOTHER'

Having learned what license compliance for desktop computers means does not imply that you know what license compliance for the data center is about. It simply means to a greater degree that you and your organization are not beginners anymore – ready for the next level. Managing license compliance for the data center isn't just '*six of one and half a dozen of another*' compared to what you are doing for your desktops.

3.1 LICENSING METRICS

Answering the question “how many licenses” you need for a particular piece of software implies that you know what to measure. While “per device” and “per user” are the most common metrics for desktop applications, metrics for server software are usually quite different. Some examples may illustrate this:

- ▶ BMC: Number of databases managed
- ▶ Microsoft: Number of devices or users accessing the server application directly or indirectly
- ▶ Oracle: Number of CPU cores of virtual or physical machine (which depends on what virtualization technology is used) multiplied with a given 'Oracle' factor that depends on the CPU model.
- ▶ Oracle: Number of electronic order lines
- ▶ Oracle: Amount of annual enterprise revenue
- ▶ Symantec: Amount of managed data capacity in Terabyte

- ▶ Symantec: Number of shared drives
- ▶ VMware: Amount of RAM allocated by all virtual machines running on a single host or multiple hosts, managed jointly by a vSphere instance, divided by the amount of virtual RAM granted by the number of CPU units of respective hosts and the respective product edition used, but not less than number of CPU.

You may easily assume that every vendor has their own proprietary metrics that – and this is even worse – are modified over time. Sometimes only slightly, sometimes even significantly (e.g. IBM CPU → PVU, Microsoft: CPU → Core).

3.2 TECHNOLOGICAL INVENTORY

Gathering all relevant technical information from the data center is a big challenge. It must provide a resilient set of records to answer the questions (1) how many licenses are required for (2) which software products.

Accordingly, any scanning system that is used to retrieve and collect inventory information needs to do much more than just listing “boxes & applications” – remember the diverse variety of metrics (see chapter 3.1 above). Required information covers virtualization details, application configuration, application usage, application dependencies, etc.

Aside from metrics and finding the quantity of required licenses, there is another specific challenge - to identify all software products that need to be licensed. Data center licensing is full of 'virtual' licensing scenarios – mostly either “Application Access” (e.g. Microsoft SQL Server Device or User CAL) or about

“Application Feature” (e.g. Oracle Partitioning, Oracle Tuning Pack or Oracle Spatial Option, etc.). Thus, one single instance of a database server may require enough valid licenses for numerous different software products.

3.3 COMMERCIAL INVENTORY

The commercial side of license compliance is made up of master agreements and the history of all licenses you have acquired over the time. Both usually contain sufficient ambiguity and lack of clarity. This is why master and purchase contracts are more complex than for desktop software that you buy, more or less, in an “off-the-shelf” manner. Acquisition of server software is usually individually negotiated, which may lead to side agreements granting you additional or fewer usage rights than defined in standard licensing conditions.

In case of organizations that have merged in the past or that have acquired other companies, there might be situations where you have two active master agreements and respective purchases possibly with contradicting content. Those contradictions will weigh heavy if IT has already merged infrastructure and operations, making it almost impossible to define which software deployments fall under either one or other license agreement and its specific terms.

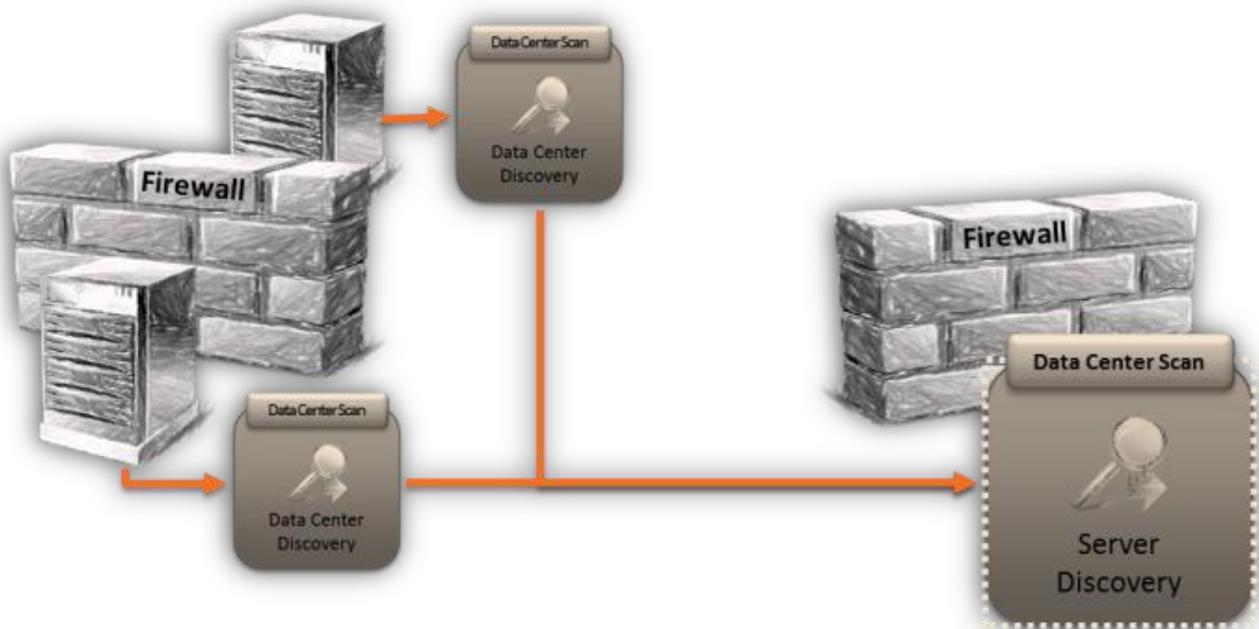
4 GIVE DATA CENTER DISCOVERY AND SCANNING PROPER FOCUS

One of the essential prerequisites to get started with successful management of license compliance in the data center is effective scanning. It is the same case as in the desktop world, but has a quite different focus because requirements are far more demanding. Be aware that gathering technical inventory of your data center is the foundation for license compliance of server and infrastructure software.

Generally speaking, you should strive for a configuration database that is:

- ▶ Up-to-date in a timely manner
- ▶ Complete
- ▶ Accurate

- ▶ Network Segmentation: Data centers are sometimes segmented; where different segments are divided by firewalls that make it difficult to reach all systems. This is why your scanner needs to be capable of handling those barriers and security gates by appropriate communication protocol and/or segmented reporting topology.
- ▶ Service Availability: Many server systems are mission critical and need to be operated in a safe and secure way. Therefore, installation of a scanning agent on those systems may be in violation of internal policies and thus is not permitted. Another reason preventing this might be prerequisites from the vendor for desired supportability



Picture 1: Scanning the Data Center

These are fundamental key requirements. Accordingly you should grant attention and emphasis on providing appropriate scanning capabilities.

Let's have a closer look at it.

and committed performance benchmarks. As a result your scanner should operate agentlessly, discovering physical and virtual

devices over the network and retrieving required information.

- ▶ Discovery Breadth: As your goal is to accomplish resilient transparency about your data center compliance, it is important to include everything that's out there. High dynamics of change, especially when virtualization is involved, makes it quite difficult to setup and maintain a list what needs to be scanned.
- ▶ Inventory Depth: Compliance-relevant specification about physical and virtual machines must be gathered, as well as resilient information about installed applications and their operational status – reporting whether they are running or not and details about enabled features. This is important in case they are subject to separate compliance considerations (e.g. specific database options). This requirement implies that the scanning tool “knows” what and how to search. Be aware that this challenge is not generic, but rather very specific to vendors and their products. Traditional scanners collect from one or two sources (registry and/or executables). It is obvious that this won't work if you have application specific rules to find relevant information and include usage information. Consequently, software recognition engines will fail to figure out what needs to be licensed by just receiving records of executables that are stored on a disk. Instead the scanner has to have local intelligence to validate if this or another application or feature is present and in operation.
- ▶ Inventory Matrix: While some licensing terms and conditions also take into account how you are using respective applications and the way they are possibly nested (e.g. standby and failover scenarios, device/user access with multiplexing mechanisms) it is also required to track interdependencies between applications. Consider middleware and database applications and their role in multi-tier architectures, as examples. Specific licensing terms for business applications may also apply to underlying infrastructure components. How else could you possibly figure out what's tied together to reconcile compliance appropriately?

5 APPROACH AND PROCEED ACCORDING TO BEST PRACTICE

The best practice approach to adopting license management for the data center is similar to implementing it for the desktops and notebooks of your organization. It is basically split into a “project” and an “operation” stage where phase 4 represents the “Incubator” (see chapter 5.7).

- ▶ Phase 1: the goals of the SAM program are defined and the way to establish respective tools, methods, procedures and processes is clear.
- ▶ Phase 2: foundational data sources are implemented and connected.
- ▶ Phase 3: ensures that all inventory changes – either technical or commercial – will be reviewed and validated in regard to their impact on compliance.
- ▶ Phase 4: this is actually the point

rules, conditions and procedures to reconcile your compliance iteratively, per vendor, handing it over to operations.

- ▶ Operations: This is the ongoing license compliance tracking for all vendors where you have rules, conditions and procedures defined continuously tracking compliance.

5.1 SETUP THE PROJECT

As with any IT project, best practice recommends that you clearly define your program. What are the goals you want to achieve? Prioritize them and make sure that you have “sliced” your objectives in a way that allows you and your project team to accomplish them one by one, in rather small steps. Try to identify and harvest so-called “low hanging fruit”.

Organizations should thoroughly the following issues related to costs, resources and timeline:

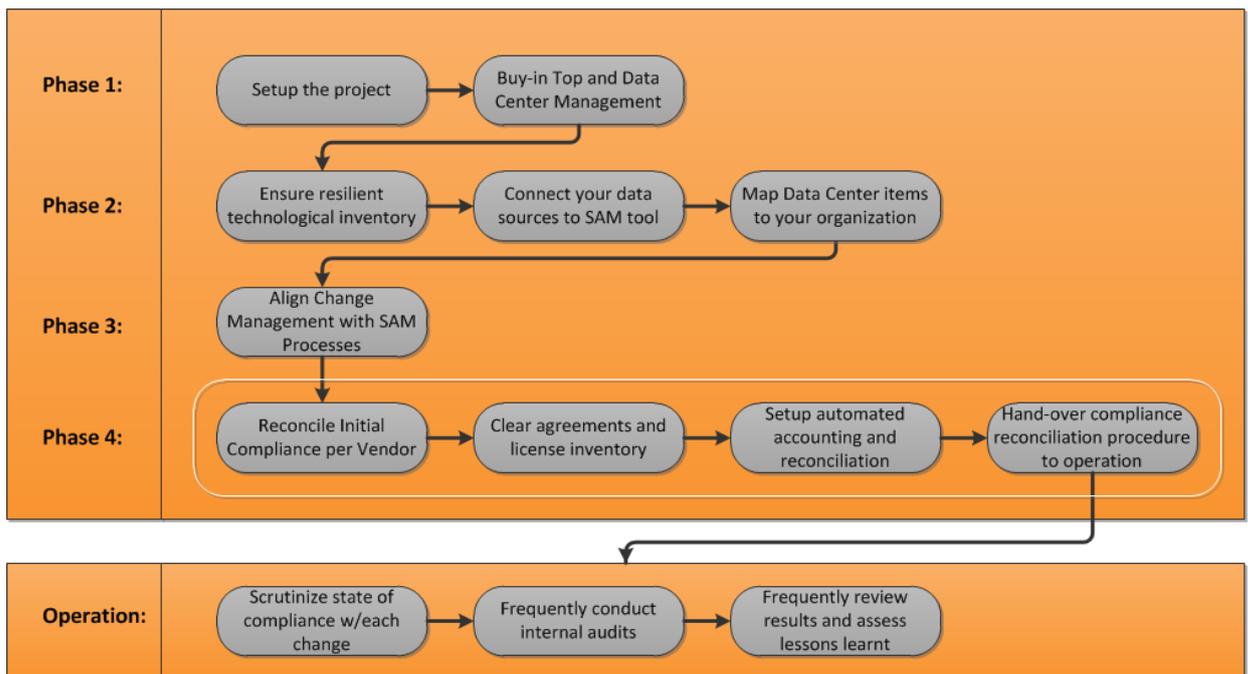


Figure 1 Two-staged approach with project and vendor handover to Operations

where you clear the whole set of

Licensing agreements, contracts and terms of vendors tend to be vague, complex and very difficult to comprehend.

- ▶ You will probably have to involve external consultants that have knowledge and experience for specific vendors.
- ▶ Don't expect to find one or two that cover all the vendors.
- ▶ Expect that a subject matter expert will charge you a daily rate that might be much higher than a technical consultant.
- ▶ Expect that the initial clearing of terms that apply to license inventory might take some time – depending on your individual status quo and circumstances.
- ▶ It might be a good idea to appoint internal resources that learn from the external consultants and handle routine changes themselves during operations.

Having an accurate and comprehensive technical inventory is one of the key success factors for your data center compliance program.

- ▶ Check which scanning tools and Configuration Management Databases you have already in place, carefully evaluating if they really will meet your requirements.
- ▶ Don't rely on data sources that are fed manually, as this won't provide you with accuracy to achieve a resilient state of compliance.
- ▶ Keep in mind that building your individual scanning solution will probably turn into a monumental challenge. Since the vendor and product landscape is constantly

changing, your scanning intelligence needs constant maintenance – setting aside the fact that you might not always have the knowledge for how to retrieve required data points.

- ▶ Carefully weigh the price of a state-of-the-art scanning solution for the data center. Don't get disappointed if the price appears to be rather high. Those tools are essential for success, providing you with a robust and maintainable system to track your technical inventory.

Don't forget to proportion estimated costs!

- ▶ Try to discover how much money your organization is spending for data center software – licenses, subscriptions and maintenance.
- ▶ Try to discover what your organization has paid relative to vendor audits.
- ▶ Assess how much money your organization could save annually. Make a chart displaying cost savings, assuming cuts of 5% - 10% - 15%.
- ▶ What would the return-on-investment be then, i.e. how much time would you need in order to realize the value of your license compliance program?
- ▶ Always keep in mind that you will not start tracking compliance for all vendors at once! Use financial information about costs and risks (audit fines) to setup your priorities in regard to vendors.

5.2 BUY-IN FROM YOUR BOARD AND DATA CENTER MANAGEMENT

It's obvious that you will need to convince your top management to launch your SAM program for the data center. It will be easier if you have done your homework, presenting a clear vision on goals, timeline, cost assessment and return-on-investment considerations.

Obviously, the people operating the data center are busy with regular challenges - virtualization, Green IT, server consolidation, bottleneck research and handling the impact of mergers & acquisitions, for example. Data centers never cease to be in constant change, so it seems there is never a good time to begin a SAM program. But there should always be time made to sharpen the saw. Try to find out if more transparency, more accuracy in available information about current infrastructure, servers and applications wouldn't help the data center teams. Try to convince them that it actually would provide more efficiency, more reliability and more quality of service.

5.3 ENSURE EFFICIENT CAPABILITIES TO MAINTAIN YOUR TECHNICAL INVENTORY

Providing completeness and accuracy is one of the core prerequisites to accounting for the licenses you need to have. While scanning tools that are possibly used to scan your desktops and notebooks are not capable to collect respective information from your data center (see chapters 3.2 and 4) you will have to address this goal using appropriate technologies.

If you already have a data center scanning tool in place, you should review if it meets your requirements. Unfortunately most scanning tools pretend to cover the data



Figure 2 Data center transparency is the key to success

center, incorporating support for specific server platforms. Although they do provide hardware and software inventory scanning, results usually do probably not contain the information you are looking for.

If you find that you don't have a solution implemented that serves you well in this respect, you will have to look for an adequate technology that does. There are a couple of products on the market that are designed and purport to do the job of collecting comprehensive technical inventory for license management purposes. A short list of possible candidates includes:

- ▶ BMC ADDM (Atrium Discovery & Dependency Mapping)
- ▶ HP DDMI (Discovery & Dependency mapping Inventory)
- ▶ IQuate IQSonar

This list is not all-inclusive. If you are looking for the right solution, you should consider similar data center scanning solutions and evaluate which one serves you best.

However, you may follow a different approach, using a range of tools or scripts and data sources for different purposes, e.g. one specific for Oracle, one specific for IBM and so forth. This might be the case especially if you have the impression that the investment into a comprehensive scanning solution is somehow "too expensive". Don't fall short in this consideration!

First of all, keep in mind how much money “is left on the table” when you talk about license compliance in your data center (see the description of cost assessments in chapter 5.1). Try to minimize the number of interfaces to data delivering systems and data sources, as much as you can, without jeopardizing your goals. Every interface costs you time and money – not only today when you connect them up the first time but, in perpetuity, since those data sources and tools will definitely evolve and change. Take into account that those changes might occur with little or no notice, provoking interruption of your license compliance processes. The fewer dependencies you setup the smaller the potential risks and maintenance costs you will incur.

If you look at the scope of more than 600 applications that BMC ADDM, for instance, is able to discover this aspect becomes clearer¹. The capabilities of BMC ADDM are built upon a set of rules for application scouting (named “*Configipedia*” at BMC). This set is updated frequently, delivering new and updated rules to discover your data center. It is even extendable by anyone who has specific applications to discover (e.g. homegrown software). Please review and compare for yourself, the capabilities of similar available solutions.

So, if you are in the process of evaluating possible replacement of your current solution, moving towards a corresponding “make or buy” decision, you should avoid comparing “apples and oranges”.

5.4 IDENTIFY AND CONNECT YOUR DATA SOURCES TO THE SAM TOOL

Your license compliance management will not only depend on information that you get from scanning your data center. There are possibly other data sources that need to be connected from which to import data - possibly, some master data regarding the data center and its configuration items.

Building the interfaces you should consider that you will likely need means to scrutinize imported data on demand, in case of suspects or subsequent data validation alarms, indicating incomplete or contradicting information. Your architects and developers may have appropriate best practices to support this. Regardless, try to keep your interfaces clear and simple. Avoid complex mechanisms, which might tend to fail and take too much of your time to thoroughly test your interfaces.

Matrix42 Service Store Generic Data Import Engine (GDIE) might be a suitable on-board facility to easily import and match data by any key. It provides you with import logs and a detailed view on records of possible problems, in case of tests or investigations in your live system.

Don’t forget to schedule your imports in a way whereby constraints are obeyed. If one import provides you with a list of server machines and another one with hardware and software deployed to those machines, you must run the first import before second one. Then, the compliance reconciliation process (Matrix42 Service Store Activation “License Manager – Data Processing”) should run at the end of all imports.

¹ See detailed listing online at discovery.bmc.com/confluence/display/Configipedia/Products

5.5 MAP DATA CENTER CONFIGURATION ITEMS TO YOUR ORGANIZATION

While you will likely import a large amount of data into your license management system regarding your configuration items – clusters, servers, applications etc. – you need to ensure that all those records are allocated to the accurate organizational elements prior to reconciling compliance. This is why your acquired licenses and agreements should have their effective organizational or regional scope identified. It is crucial to map your technical inventory accordingly to organizational units and location. If you plan to allocate costs or manage configuration items by responsible owners, it might make sense to take care that correct assignment of items to cost centers is done. Check how far you can automate this process using specific data characteristics and establish a manual process to validate and possibly adjust wrong or missing assignments.

5.6 ALIGN YOUR CHANGE MANAGEMENT WITH LICENSE COMPLIANCE PROCESSES

Unlike license management for your user's workplaces, it is important for effective compliance management in your data center, to properly align your change management processes. Desktop applications usually have licensing policies that support rolling back any unauthorized or inappropriate changes without any resulting negative impact. This may be different for some vendors and their server applications. Depending on their licensing terms and conditions, they may possibly consider a "high watermark" principle to measure which and how many licenses you need to have in order to be compliant.

IBM Sub-capacity licensing, for instance, takes into account how your configuration develops and reflects changes within a period of last two years. Accordingly, any change may lead to failed compliance, to a certain extent, even if you reverse it subsequently. Therefore you should evaluate planned changes in regard to impact on the state of compliance in advance and decide on how to handle it. Don't get fooled if a change appears to be a "minor" one. It's up to the vendor's decision if adding another server box to a cluster or changing assignment of physical processors to a virtual machine affects compliance or not. Many changes may be routine for any server administrator – e.g. moving a database to another server for improving responsiveness of a business application – while respective impact on compliance may result on a compliance gap that could cost you more in license fees

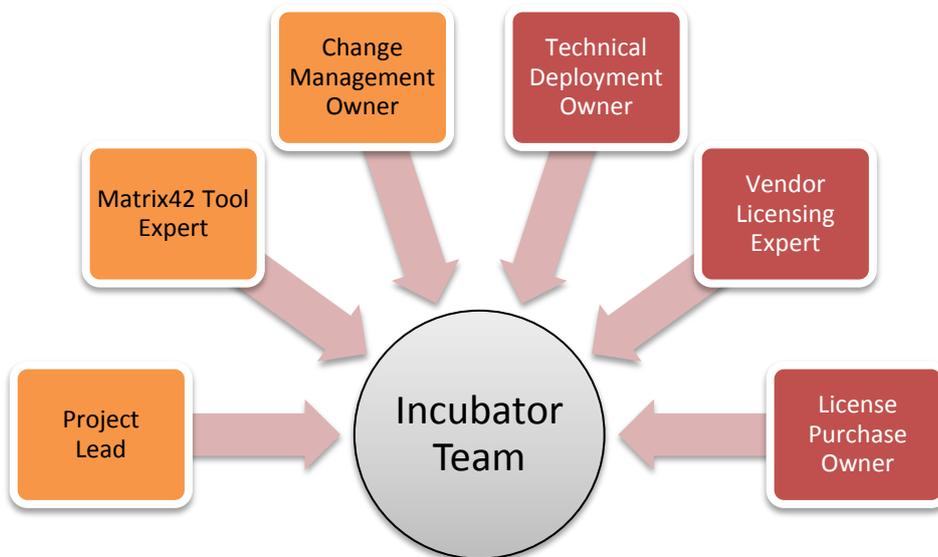
5.7 RECONCILE INITIAL LICENSE COMPLIANCE PER VENDOR

Fortunately, there is no general difference to reconcile compliance for the data center compared to the procedure considered to be best practice when you target your workplaces. It's a three-stage model we refer to as the "Incubator Principle". The incubator is a small team – possibly with changing members according to targeted vendor – that clears requirements, defines procedures, validates current implementation of license management tool and its interfaces to data sources and configures the solution accordingly. The desired result of the incubator is to reconcile initial compliance for every vendor, producing a validated compliance report for respective vendor and then handing over the procedures to operations (see chapter 1).

Project Lead: The team will be guided by a project lead that is managing all activities according to the project plan and its priorities. This individual is a permanent member of this team and responsible to

critical, i.e. required adjustments should be made as soon as possible to trap possible changes that occur “right now”, while initial compliance reconciliation is done.

The rest of the team is rather vendor spe-



Picture 2: Permanent (orange) and temporary (red) members of the Incubator Team – One of the temporary members takes over Compliance Ownership for both Incubator and following Operations Mode.

track the progress as well as results, eliminating possible obstacles and frequently reporting to the steering committee.

Matrix42 Tool Expert: Another permanent member of the team is the tool expert with technical skills in regard to the Marix42 License Management tool. They assist in training new team members in using the tool and support the team with required configurations to map a vendor’s license model. The tool expert is also the one that coordinates and drives possible extensions of the data model and/or data import from data sources that are required to gather additional information required to calculate license requirements.

Change Management Owner: This team role is responsible for aligning change management processes and to consider all licensing specific aspects in respective process policies and check lists. The alignment of change management is time

cific where special know-how is required to cover all aspects appropriately. As they enter and leave the team, it should always be clear which one is responsible to maintain the current state of compliance during operations (Compliance Owner). They are the recipients of the procedure definition that is “handed over” after compliance has been initially reconciled. Accordingly, this role should be responsible owner of respective documentation².

Technical Deployment Owner: This individual is operatively responsible for the deployment and the configuration of the supporting applications that validate the information provided by respective technical data sources, in regard to complete-

² I recommend defining a central repository of “License Compliance Reconciliation Procedures” where all documentation is stored and updated as required by respective owner. Maintaining this repository always up-to-date is essential to ensure that operations are transparent and open for moving ownership forward to other people.

ness and accuracy. This role usually will be staffed by a member of IT and may take the lead in operations to track and maintain state of compliance (Compliance Owner).

License Purchase Owner: Management of commercial licenses lies in the hands of the license purchase owner. They are responsible for driving the review of existing agreements and purchase contracts, as well as capturing or importing corresponding information into the license inventory of the tool. They may also take the lead in operations to track and maintain state of compliance (Compliance Owner).

Vendor Licensing Expert: This role is optional and can be delegated to the designated Compliance Owner if that person has appropriate knowledge about vendor's licensing terms. If this is not the case, it is recommended to hire an external expert that can provide required know-how. They may also take the lead in operations to track and maintain state of compliance (Compliance Owner).

5.7.1 CLEAR YOUR LICENSE AGREEMENTS AND PURCHASE HISTORY

Clearing existing agreements closed with the vendor itself or with authorized resellers is usually the first step in the Incubator Model. In conjunction with agreements, all past purchases and subscriptions will be reviewed and analyzed. Special attention must be given to the following possible issues:

- ▶ Side agreements
- ▶ Concurrent agreements
- ▶ Inherited agreements from mergers or acquisitions
- ▶ Organizational spin-offs or splits

- ▶ Expired or cancelled maintenance subscriptions
- ▶ Upgrades or Cross-grades
- ▶ Previous Audits

While server licenses carry a considerable financial risk, it is recommended that you eliminate all contradictions and ambiguities.

Consider turning to the vendor for a clear and concise written statement about how certain circumstances will be interpreted, in case of any future audit. Make clear to the vendor that this statement is prerequisite to reconciling your compliance. Also, make sure that you submit and follow your own interpretation of terms, using your unfulfilled request for clearing as evidence, in case of any future law suits regarding audit disputes. You likely should involve your legal department to conduct this communication.

5.7.2 SETUP AUTOMATED ACCOUNTING FOR COMPLIANCE RECONCILIATION

The Matrix42 License Management tool is meant to provide a full and resilient inventory of your technical and commercial artifacts from which compliance is reconciled. This process of reconciliation can and should be automated. Once you have cleared valid licensing terms it is time to arrange everything in order for the tool to do its job.

The first step in doing so is to validate technical inventory in regard to completeness and accuracy. Ensure that all data points that are relevant for license compliance are present and correct. Don't forget to include implicit data points such as organizational or regional allocation of respective servers and applications since this may have influence for identifying relevant license pools.

The next step is to configure the correct license models in the Matrix42 License Management tool. Those license models contain a couple of options in regard to consolidation, as well as a scripted formula used to calculate the number of required usage rights for a particular instance of the software. It is recommended that you use clear naming conventions to avoid errors when you apply them to license requirements or purchased licenses (see examples below).

After having defined relevant license models you have to apply them to existing license requirements and licenses. Use the “default License Model” at Software Products – the level at which you account for compliance – to choose the one that is currently relevant. If you have more than one relevant license model or have different models for old licenses, you need to set the license model for license requirement records on a case-by-case basis.

standard compliance reporting in Matrix42 License Management tool and “Baselines” are created.

Examples of how to name License Models effectively:

Recommended names	Names to avoid
Oracle CV 2009-2010	Oracle Core Value 1
Oracle CV 2010-... (MyEntity Ltd.)	Oracle Core Value 2a
Oracle CV 2010-... (Another Corporation)	Oracle Core Value 2b

5.7.3 HAND OVER VENDOR COMPLIANCE RECONCILIATION PROCEDURES TO OPERATIONS

As soon as license compliance has been reconciled the first time for a vendor, license compliance management should be handed over to operations. The hand-over is documented and reported to the steering committee. Accordingly, all software products of the vendor are added to

6 SETUP AND CONTROL YOUR LICENSE COMPLIANCE OPERATIONS

6.1 SCRUTINIZE STATE OF COMPLIANCE ON EACH CHANGE

The designated compliance owner will now constantly review status of compliance based on every single change that occurs. Either on the technical side – hopefully prior to the change itself – when the change has been requested or on the commercial side when license compliance requires buying additional licenses or timely limited licenses expire, e.g. subscriptions or maintenance.

Beside the “on change” validation of compliance, it is recommended that you validate compliance for all software products for a particular vendor on a regular basis. Those frequent compliance checks contain a complete review of all items in technical and commercial license inventory. The compliance owner then adjusts records, if required, and documents the compliance check with a “Baseline” for every monitored product.

Whenever related license agreements change, because existing ones have been cancelled or modified, it is appropriate to review the state of compliance, especially in regard to potentially new license models that are required to calculate license requirements accurately. There is the same issue in the case of new agreements that have been closed, where there haven't been any before.

6.2 CONDUCT INTERNAL AUDITS

According to best practices you should schedule internal audits. This measure increases the chance to have valid information and resilient state of compliance for multiple purposes:

- ▶ Unforeseen Vendor Audits
- ▶ License Agreement Negotiations
- ▶ Organizational Changes (Mergers, Acquisitions, Spin-offs)

It might be a good option to hire external experts to conduct those internal audits. Doing so avoids unintentional “blindness” that might occur if you continue to account “as usual”, while licensing terms have been configured inappropriately or changed usage or deployment is not compliant to unchanged terms.

The owner of the internal audit process is the compliance steering committee.

6.3 REVIEW RESULTS AND ASSESS LESSONS LEARNED

Subsequent to any internal audit it should be standard operating procedure to have a review session to discuss identified issues. The goal of those sessions is to address any possible problems and optimize the license compliance reconciliation procedures. Each review session should be documented – using the “Memorandum” object in the Matrix42 License Management tool - and possible measures be tracked.