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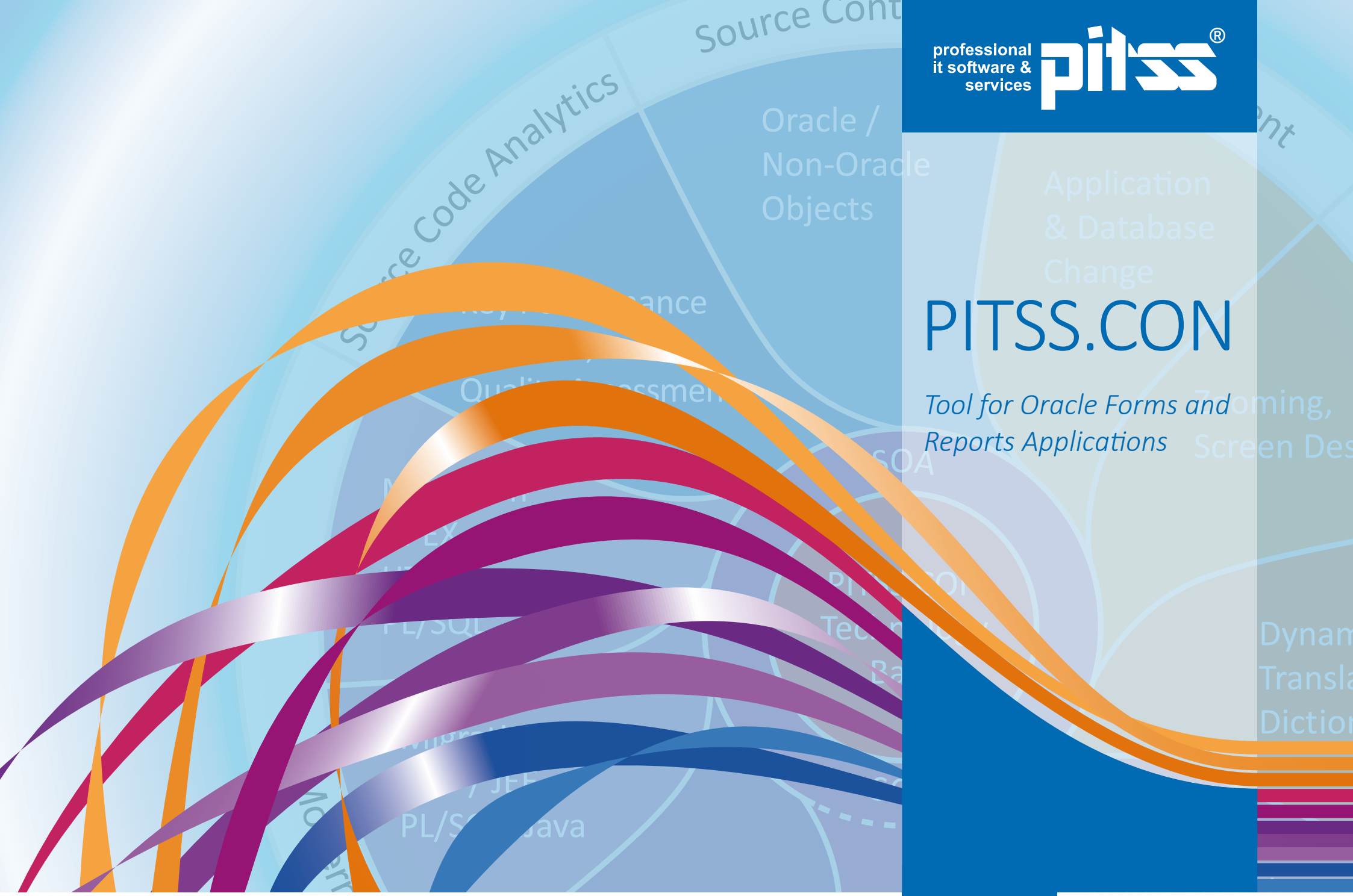
PITSS.CON

Tool for Oracle Forms and Reports Applications



ORACLE Gold Partner

PITSS.CON Modules & Editions

*»As for the future,
your task is not to foresee it,
but to enable it.«*

Antoine de Saint-Exupéry

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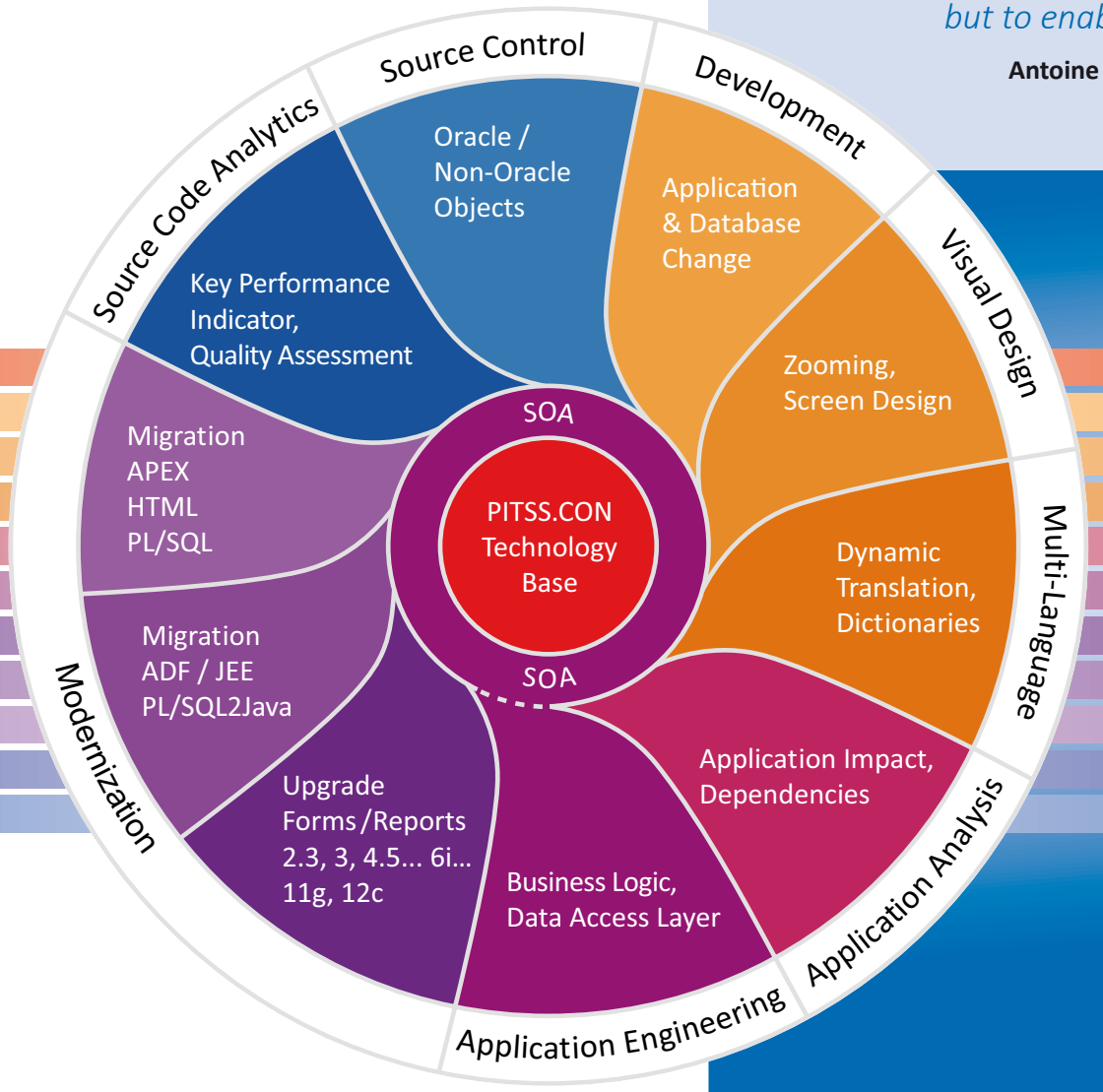


The right solutions for your Oracle Forms applications

Whatever the future of your Oracle Forms applications may be, with PITSS.CON you achieve your goals successfully and accurately – within time & budget. The modular structure of PITSS.CON allows you to support all your projects ideally and individually from analysis, measurability, control, security and documentation to visual and linguistic changes and also modernization and new architecture. With the practice-proven PITSS.CON Editions we additionally offer you project-related module combinations as complete, low-cost solution packages. You too can profit from PITSS.CON's versatility, flexibility and performance for successful Oracle projects!

PITSS.CON Modules	Blue Sky	Forms2ADF	Forms2APEX	Forms2Forms	Forms2AnyGUI	Forms Analysis	PITSS.CON modular
PITSS.CON Technology Base	✓	✓	✓	✓	✓	✓	✓
PITSS.CON Maintenance & Development	✓	✓	✓	✓	✓	✓	✓
PITSS.CON Visual Design	✓			✓			○
PITSS.CON Multi-Language	✓						○
PITSS.CON Application Analysis	✓	✓	✓		✓	✓	○
PITSS.CON Application Engineering	✓	✓	✓		✓		○
PITSS.CON Forms & Reports Upgrade	✓			✓			○
PITSS.CON Forms to ADF	○	✓					○
PITSS.CON Forms to APEX	○		✓				○
PITSS.CON Source Code Analytics	○	○	○		○	○	○
PITSS.CON Source Control	✓	✓	✓	✓	✓	✓	○

Key: ✓ module contained ○ optionally licensable

Oracle Forms: proven – durable – brilliant

Business management processes without support from IT are unthinkable in our globalised and fast-moving world. The networking and reproduction of all data on products, prices, logistics, quality, from manufacturing to sale, the supplier and customer has to be available at the press of a button. Like no other programming technology, Oracle Forms make it possible to grasp, visualise and manage this rapidly growing quantity of data.

Oracle Forms – history & incidence

Oracle Forms have offered what is probably the closest and most powerful link between the user interface and databases for more than 25 years. As a much-praised 4th generation (4GL) programming tool Oracle Forms links input interfaces with constantly changing new business logistics requirements and the underlying data repositories of a database as if it was child's play. For this reason Oracle Forms has been one of the most widespread programming tools up to the present day. Companies of all sizes and from all sectors use Oracle Forms to control their business processes – from small applications to highly complex complete solutions. At a guess, over 100 million end users work with Oracle Forms-based applications every day.

The global markets, new manufacturing methods, miscellaneous sales opportunities or just the constant availability of data in international company networks also require proven Oracle Forms applications to keep up through targeted life cycle management. Whereas a simple input screen was once adequate, nowadays data, jobs and information are exchanged via open interfaces such as XML and web services in a hint of Cloud computing as SaaS (Software as a Service) or even entire processes are outsourced and made available. Service-oriented thinking permits IT systems to be coupled with other applications or integrating into modern system landscapes. Only those who allow for this change can grow with it. An over-hasty change of technology in the process is definitely not recommended.

Oracle Forms modernization means much, much more...

Modernization has many facets. The pursuit of the technologically driven overall process of modernization is usually damned to failure. However, the pursuit of agile approaches results in partial steps such as well-founded application analysis, code revision, assessments by means of recognised processes and improvement of the code quality. This makes the goal of a modern, open and easy-to-maintain application with a new, state-of-the-art user interface very quickly tangible. The Oracle Forms upgrade or technology migration to Oracle ADF, APEX or any user interface technology such as GWT (AnyGUI) are built on such solid decisions, documented in their procedure and successful migration projects.

The tool-based, highly automated, agile approaches in PITSS.CON experience permanent, consistent further development and have supported all kinds of processes and detailed steps in Oracle Forms projects for many years. PITSS.CON customers save an enormous amount of time and money, drastically minimize the error risk and achieve their goals with great success.

Oracle Forms:

- For more than 25 years supported technology
- The greatest efficiency in development
- Close integration of user interface, business logic and database
- Extensive distribution worldwide

PITSS.CON: fast – high-performing – unique

The software solution PITSS.CON has been convincing users worldwide for years in all areas and phases of Oracle Forms Projects, by means of intelligent approaches, a high level of automation, speed, efficiency and reliability. The repository-based PITSS.CON tool supports through analysis with exact project estimations, through code cleaning and the processing of business logic, all the way to security concepts, documentation and quality assurance. The savings range from 30% up to frequently as much as 90%. With the upgrade of older versions of Oracle Forms on WebLogic Server 11g as well as technologically driven migrations, PITSS.CON manages the prerequisites for Oracle Forms & Reports, SOA, ADF, APEX up to any GUI.

PITSS.CON: intelligent & methodical for Oracle Forms

PITSS.CON uses unique methods to enable self control of technological and economic changes without pressure, in a well-considered and coordinated way, in the frame work of the available budget and time. Whether it is the closing-in on new markets through the incorporation of a multilingual format, or the breaking-off of the first business processes from the current application. PITSS.CON offers methodical and intelligent approaches to make decisions on the basis of detailed analysis simpler and quicker. PITSS.CON reduces sources of error, such as human estimations and manual programming, to a minimum and enables an agile development as you are led through easy-to-follow steps and sub-steps.

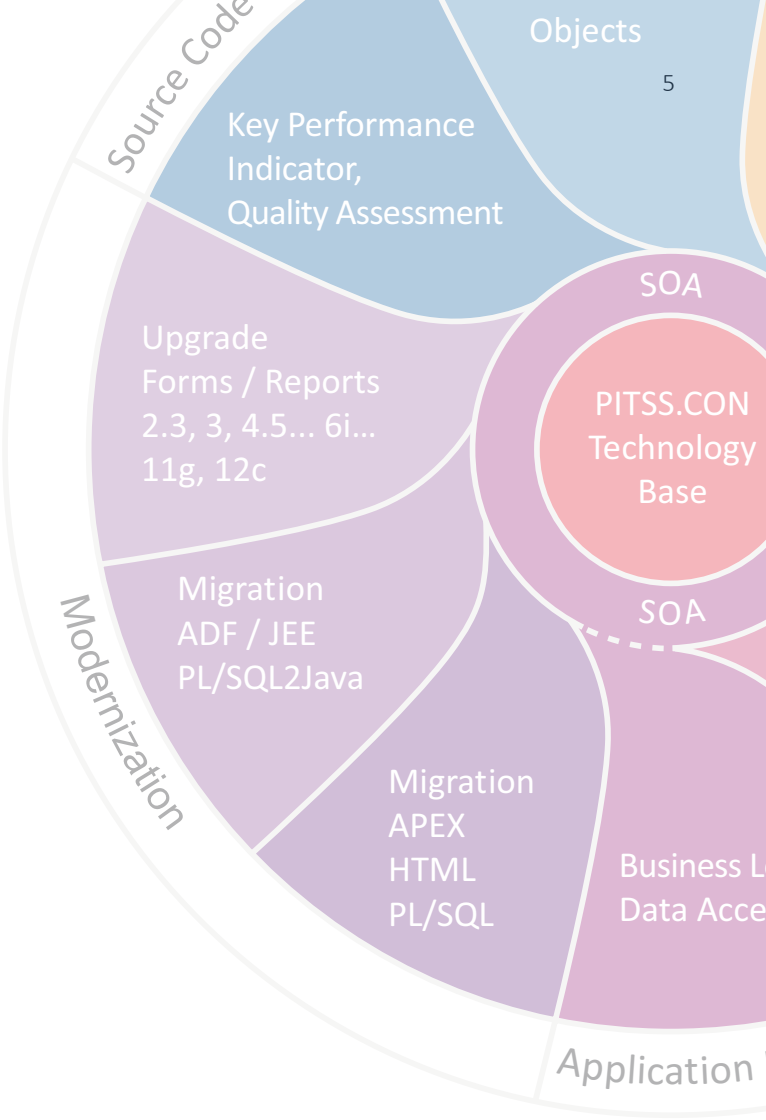
PITSS.CON modernizes Oracle Forms

By means of automatisms, software becomes measurable, and artefacts come within reach and, depending on their granularity, become portable. Technology-conformal generators produce consistent, constantly high-quality components that are easy to understand and can thus be quickly adapted. The future applications and their architectures are placed on a stable and always reproducible foundation, and even complex migrations between technologies can be mastered and successful.

PITSS.CON: perfectly fitted, practical & effective for Oracle Forms

The modular building block system from PITSS.CON fits to the desires and expectations of the user and is thus able to focus itself on the real demands. From the very beginning PITSS.CON has been developed for and with its users. Demands have been collected, processed and made available to the rapidly growing customer base. This work will be intensified in the future, so that PITSS.CON in the hands of experienced application developers, architects and IT managers can bring even more transparency into the driven applications, shortening project cycles and freeing up budgets, and allowing concentration on the further challenges.

To date there are over 1,000 PITSS.CON installations in more than 40 countries – and the road keeps on going!



PITSS.CON Technology Base

PITSS.CON Technology Base (PITSS.CON TB) lies at the heart of PITSS.CON, consisting of a fine-grained, intelligently linked repository that manages the source code of entire Oracle applications. Once the application has been loaded, PITSS.CON knows everything about its stage of development, software quality, all its components, as well as their usage and dependencies. This makes Technology Base the factual basis for all decisions and subsequent operations. The modular concept of PITSS.CON is built on top of this repository and supports any customized user requirements: From PITSS.CON Source Control, to PITSS.CON Maintenance and Development, the deep PITSS.CON Analysis, PITSS.CON Reengineering or PITSS.CON Modernization, taking applications to current technologies such as ADF, PITSS.CON can be perfectly adapted to any individual requirements for the complete life cycle management of Oracle applications.

All application sources in one central Oracle repository

At the heart of the PITSS.CON development platform lies its unique repository technology that securely collects, stores, manages and processes all details about Oracle applications – any Forms and Reports versions, along with related sources, such as libraries, external SQL, C, Java, ASCII files, relevant database objects and development artifacts, including deep analysis results, code changes, or project documentation. As it is itself built on a standard Oracle database, the repository benefits from the fastest data access and manipulation. This allows quick and precise mass development and maintenance for even the largest applications, so that any development routines can be defined and accurately executed for thousands of Forms and Reports modules and millions of records at once, at the simple push of a button.

Perfect development results – with property-level granularity

To efficiently change applications – for instance, to alter the properties for lots of items or canvasses – all application objects must be stored and manipulated at the lowest possible granularity level. This is why PITSS.CON breaks down complex Forms and Reports modules into their smallest components, analyzing all their properties, and then saving them as individual records in the repository. This granularity allows easy and quick understanding of any level of the application, as well as performing changes and highly sophisticated searches and analysis.

100% Oracle source code – with standard Oracle API Layer

Reading and writing applications is made through standard Oracle-certified API interfaces, the same ones used by Oracle Developer and Designer. This is why PITSS.CON can process any version of Forms and Reports and recreate them at any time, fully functional and free of any foreign, non-Oracle proprietary artifacts.

- **Redesign thousands of Forms** at once using secure and precise model-based routines.
- **Gain quality and productivity** by developing and managing an entire application in one place.
- **Enrich Oracle applications** applying proven, state-of-the-art technologies and best practices.
- **Go beyond Forms capabilities** by adopting a repository, model-driven development.
- **Minimize time and costs** for analyzing, developing and migrating Oracle applications.

The foundation for efficient and effective application management

User-based security model

Large development teams? Individual access rights? No problem with PITSS.CON. Its versatile multi-user concept and integration with a source control system allow different authorization levels to be customized for accessing specific applications, database schemas, for individual users or user groups, this way optimizing and securing the whole development process.

One platform for the entire product life cycle

The Technology Base is the foundation for the entire PITSS.CON platform, allowing the management of the full application life cycle – from analysis, development, quality assurance and maintenance, to look and feel redesign, business logic reengineering, Forms and Reports upgrade or migrations to Oracle ADF, APEX or other modern frameworks.

PITSS.CON Technology Base at a glance

PITSS.CON's central repository is based on an Oracle database and can manage applications of any size and complexity. The technology has been applied for hundreds of Forms modernization projects worldwide, proving able to successfully manage even the most difficult requirements and complex applications, always with minimal costs and development time.

Easy to use

PITSS.CON development environment is designed to be similar to Oracle Forms, Oracle Reports Builder or a database developer tool, therefore requiring only minimal training for the Oracle developers. There are, however, some major differences, e.g. while Forms Builder allows accessing just a set of modules at once, PITSS.CON offers a global overview of an entire application and all its components, including reports and database objects. Here thousands of Oracle Forms and hundreds of thousands of lines of code are analyzed and manipulated in seconds, so that developers can work within a single, integrated development platform.

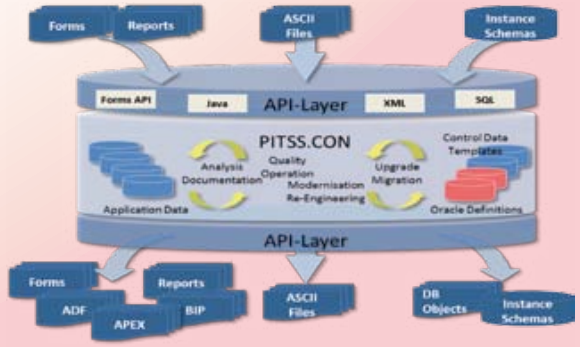
Complete documentation

Proper documentation is key to a successful project completion. Yet, the efforts to fully document the development changes can take a considerable portion of the overall project time. PITSS.CON drastically reduces the documentation time by generating complete descriptions of the development steps – automatically at the time of development. This type of information is stored within the PITSS.CON Repository for later review or for project archival.

Fully reproducible development steps and ready-to-use expertise

Customizable templates can be easily defined with PITSS.CON for all development steps. Developers can, for instance, first assemble all necessary changes using a test application and then simply reapply the resulting change templates to other applications. This makes any good idea reusable across different teams and projects. PITSS.CON comes pre-installed with an extensive set of best practices and expert solutions resulting from decades of experience, all packed as templates and ready to be used in many new projects.

PITSS.CON Repository



PITSS.CON Technology Base

- supports all source types used in Oracle Forms, including:
  - FMB, INP Oracle Forms 2.3…11g
  - RDF, REX Oracle Reports 1.9…11g
  - PLL PL/SQL libraries
  - OLB object libraries
  - MMB menu modules
  - SQL programs
  - PL/SQL logic
  - C/Pro*C pre-compiler code
  - Cobol embedded code
  - Java programs
  - ASCII files
  - Database objects such as
    • Tables • Views • Types • Triggers • Functions
    • Procedures • Packages • Synonyms

PITSS.CON Maintenance & Development

PITSS.CON Development (PITSS.CON MD) accelerates the software design and changes for Oracle Forms and Reports applications. For this purpose, PITSS.CON MD provides intelligent, model-based reengineering processes that considerably reduce the development team's efforts: automated mass change capabilities such as one-click changes, additions, deletions, and replacement of application components, code, and properties will shorten the development, maintenance, and upgrade processes. At the same time, the application quality increases, allowing Oracle Forms to easily adapt, evolve, and prepare for the future.

One-Click development: Processing thousands of Forms in a matter of seconds

Managing Oracle Forms and Reports applications implies undertaking frequent repetitive tasks for hundreds of modules. What was once considered to be labor intensive and routine is now performed in just a few steps with PITSS.CON. This applies, for example, to tasks such as applying common visual attributes, format masks, or currency alignment standards to all (or a subset) of an application's items. Even attaching Java components to date fields leads to huge reductions in development time. Complex changes can be saved and then reapplied whenever needed. And it is not solely about reducing the working time: PITSS.CON eliminates the errors typically associated with large-scale manual changes.

Program comparison: The `diff()` command for Oracle Forms

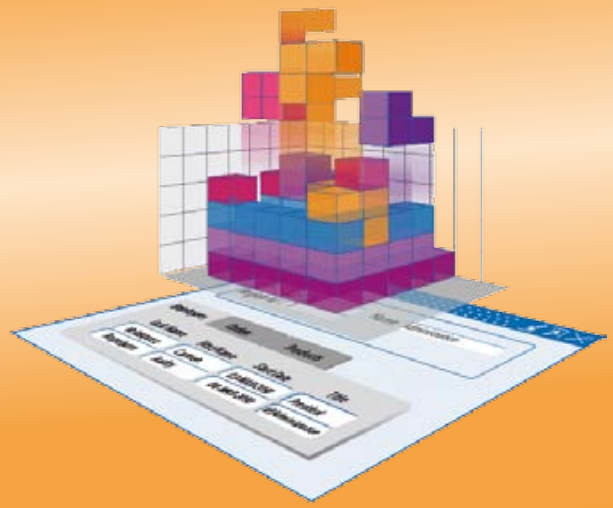
Comparing program code is used for documentation processes, code review, or acceptance of changes and is an important method of quality assurance. It is, however, an extremely time-consuming activity that often receives insufficient attention. For the tedious process of manually testing thousands of objects, properties, and lines of code, there is nothing better than automation. PITSS.CON accomplishes this task based on repository-driven analysis. Even the smallest changes are detected and displayed or printed in comprehensive reports. This code comparison functionality can be applied to any type of file from an Oracle application, from simple ASCII files (such as PL/SQL, Java, and C) up to complex Forms, Reports, Menus, and libraries. No other tool is as fast, comprehensive, and accurate as PITSS.CON. PITSS.CON creates all the best conditions for Oracle applications projects and successfully carries out their entire implementation.

Quality assurance: Rule-based automated code review and targeted testing

The best way to ensure an application's long-term viability is to increase its software quality. Quality improvement measures will pay off through reduced maintenance costs as well as faster upgrades and migrations. PITSS.CON comes with a palette of easy-to-apply quality assurance solutions: development rules, such as best coding practices, can be defined as PITSS.CON templates and then applied to all application sources. From Forms objects and properties to database-stored code, all components are scanned and automatically corrected, and any mismatches are reported. Targeted testing means testing only the precise areas of an application that are affected by a specific change. This improves and expedites the overall testing process. Additional application engineering processes, such as cleaning the unused objects and consolidating the business logic, will further simplify and prepare your applications for years to come.

- **Speed up Forms development** performing similar tasks for thousands of modules at once.
- **Reduce maintenance cost** by simplifying the application and increasing its code quality.
- **Compare Forms or Reports** modules, identifying all the differences among file versions.
- **Improve and expedite testing** by targeting test processes at the areas affected by change.
- **Enforce coding conventions** for greater consistency and efficiency in Forms applications

Intelligent reengineering for Oracle Forms and Reports



PITSS.CON Development at a glance

PITSS.CON Development enables developers to greatly reduce the usual manual efforts involved in working with Oracle database applications. Mass development as well as very specific operations can be performed automatically on any number of modules at once.

Examples of PITSS.CON Development Features

- **Searching and replacing desupported function or procedure calls:** Unlike Forms Builder, PITSS.CON is able to perform this process across an unlimited number of Forms modules, libraries or reports and can also adjust function and procedure calls and their arguments in only one step. For example, it can add the `ALERT_MESSAGE_TEXT` argument when replacing the Forms9iobsolete built-in, `change_alert_message`, with its modern equivalent, `set_alert_property`. *(Figure 1)*

- **Changing properties:** Over an entire application, such as altering the background color for all canvasses in order to instantly modernize the application's look and feel.

- **Comparing two modules:** Displaying in detail the different objects and their changed properties. *(Figure 2)*

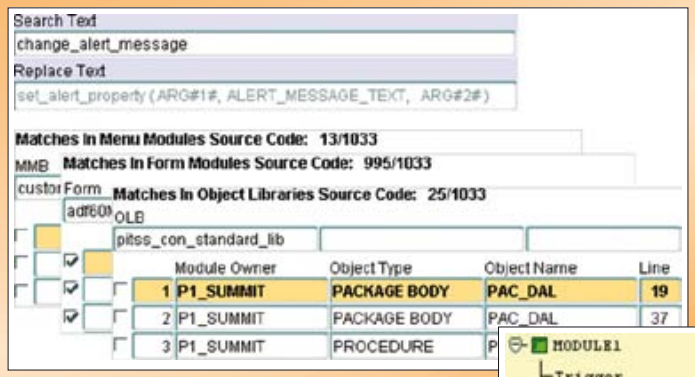


Figure 1: Search & Replace

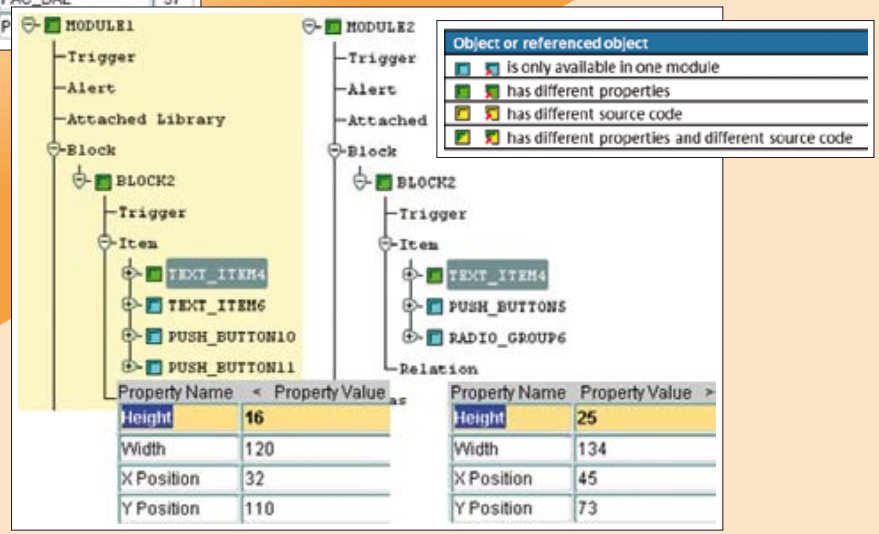


Figure 2: Compare modules

PITSS.CON Maintenance & Development

- reduces the on-boarding time for new developers through analysis and documentation.
- allows through rule-based automated code review to implement the same development practices across geographically distributed development teams or with external partners.
- offers an intuitive interface, similar to that of Oracle Developer.
- can save development operations as custom templates, so that the desired process to be reapplied, similarly to a macro, to other applications or objects.
- can also define batch processes to regularly perform maintenance steps.
- can export all results as comprehensive PDF, XML, HTML, or TXT reports to be included in the software documentation.
- contains predefined templates that solve most migration challenges.

PITSS.CON Visual Design

With PITSS.CON Visual Design (PITSS.CON VD), any visual changes to Oracle Forms applications can be quickly and easily implemented, from adapting to a modern screen resolution to redesigning Forms for a modern, fresh look and feel. Manually, this would be a huge and time-consuming job. With PITSS.CON Visual Design, these tasks are completely automated: the whole application is instantly scaled to modern screen resolutions. The layout is optimized according to individual requirements without any code changes. What's more, PITSS.CON Visual Design allows the easy implementation of Java Beans and Pluggable Java Components for a true web look and feel and functionality, while also speeding up the otherwise time-consuming layout maintenance tasks such as adding new fields or solving overlapping conflicts.

Design ideas and Java solutions for a totally new look and feel

Modernizing Oracle Forms and Reports applications does not necessarily mean migrating them onto other platforms. Most Forms 11g modules fulfill their functional requirements perfectly well; all the application needs may just be a refreshed look and feel. This is why PITSS.CON Visual Design combines the best product solutions for designing user interfaces: automated design ideas and Java Beans as well as Pluggable Components, which can instantly give that modern web look and feel to an entire application. This high degree of flexibility for customizing the front end also allows the seamless integration of Forms 11g into other modern applications. This leads to a consistent corporate identity across all application components and increased end-user acceptance.

From 800 x 600 pixels to any screen resolution – At the press of a button

Most Oracle Forms applications were developed for an earlier standard screen resolution of 800 x 600 pixels. Everyone has long since become accustomed to more user-friendly resolutions. Manually adjusting Forms so that they are properly rendered on modern displays can be extremely time intensive and error prone. Not so with PITSS.CON. Its Visual Design module will translate screen resolution into a configurable parameter, automatically adjusting the size of all visual objects, such as fields, frames, graphic elements, and pages. PITSS.CON accordingly corrects the font size of hundreds or thousands of modules at once – without any code changes! The process is so accurate that no manual corrections are required.

Overlapping visual items? Easily fixed with the Layout Editor

PITSS.CON Visual Design eliminates the tedious and time-consuming task of identifying all areas where items visually overlap due to modifications of Forms item attributes or Oracle database columns. It automatically generates a list of overlapping visual elements and offers the choice of an automated correction or manual adjustment in the Layout Editor.

Reapplying great ideas with PITSS.CON templates and projects

Great ideas deserve to be reapplied. So when you are happy with the result of your visual design changes, your ideas (including each necessary design step) can be saved as a PITSS.CON template. All templates can be structured afterwards in projects and can be reused any time. Thus large applications can be redesigned in a single step, giving every Forms module the same consistent look and feel.

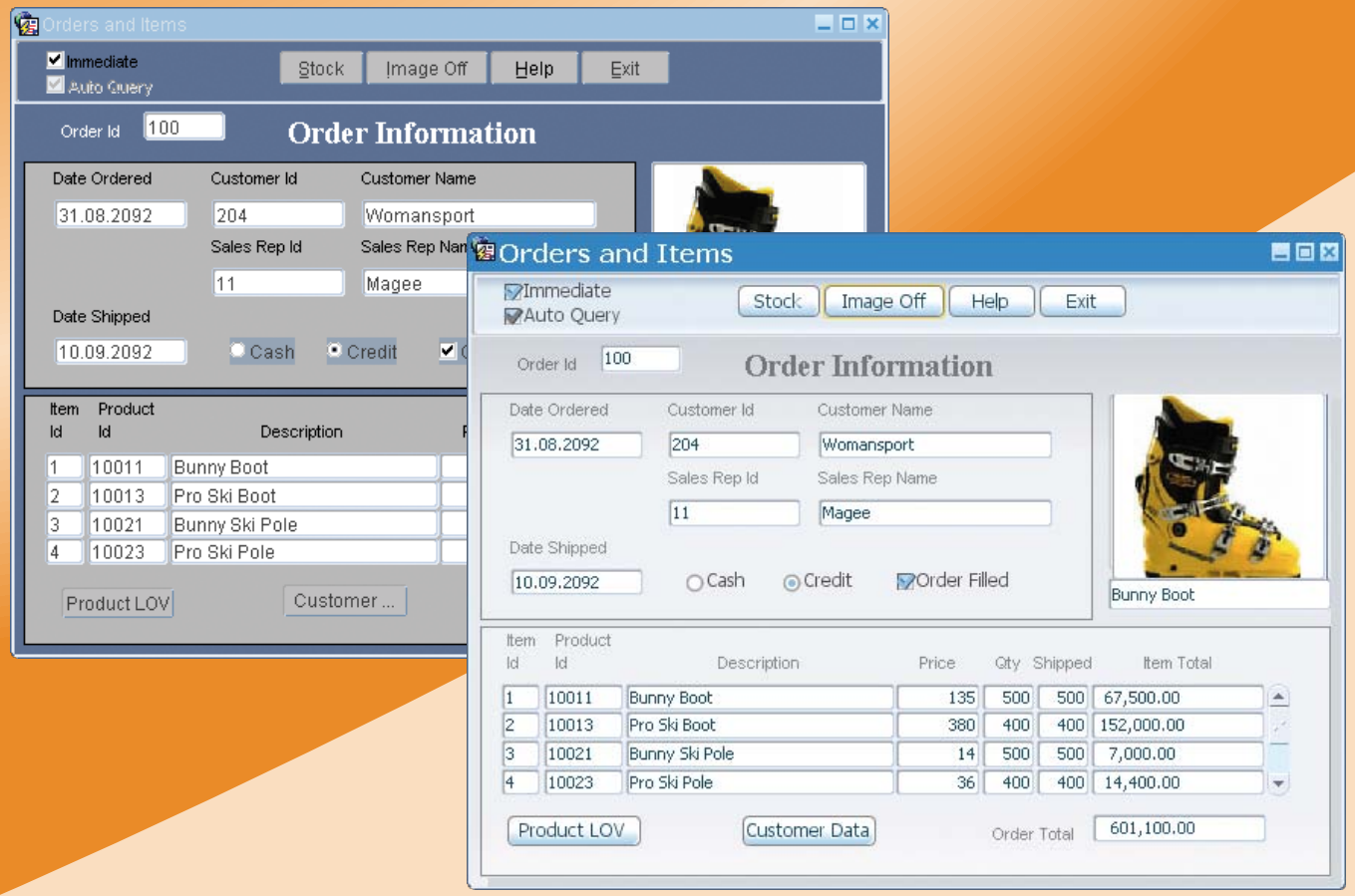
- **Modernize Forms interface**, instantly customizing the look and feel of an entire application.
- **Increase screen resolution**, automatically adjusting all visual elements for optimal rendering.
- **Optimize application's layout** for easier maintenance and user-interface configuration.
- **Solve visual items overlapping** either interactively using the Layout Editor or automatically.
- **Easily add Java components** to enhance Forms applications with unlimited capabilities.

Oracle Forms applications shining in a whole new light

PITSS.CON Visual Design at a glance

PITSS.CON Visual Design allows user interface adjustments for complete Oracle Forms applications to be performed easily, with a single mouse click. For this purpose, necessary libraries and JAR files are integrated into the Forms modules and adapted for specific objects and requirements. Additionally, Java Bean areas are automatically created for all existing canvases in Forms modules, refreshing the old Forms modules design with a new look and feel.

This solution allows any further adjustments to be made externally to the Forms modules, in the provided CSS file, which contains the properties of the desired design: simply changing the source file enables Oracle Forms to update the entire application layout at runtime. This allows Forms developers to quickly provide their end users with an unlimited number of runtime design options.



PITSS.CON Visual Design

- offers fully automated look and feel adjustment for Oracle Forms modules
- attaches the necessary Java Beans automatically to Oracle Forms canvases
- integrates all the required objects in the Forms modules:
  - JAR files
  - PLL libraries
  - Bean areas
- adjusts all the corresponding procedure calls for the modified or added objects
- is available for both Windows and Linux installations, 32- and 64-bit
- requires no Forms programming effort for the integration of the new design

PITSS.CON Multi-Language

With PITSS.CON Multi-Language (PITSS.CON ML), Oracle Forms and Reports applications are perfectly equipped for worldwide multi-language deployment. This allows significant reductions in costs and maintenance while improving the end-user experience and productivity. Internationalizing Oracle Forms and Reports is a fully automated and seamless process, as PITSS.CON Multi-Language generates the complete infrastructure the application needs. This infrastructure is so lean and effective that it allows the management of a single set of source modules for all the target languages. This means that no matter how global the company becomes in the future, how many languages are added, or how complex the database system gets, the application will always have everything it needs to successfully support the business in its international markets.

PITSS.CON Multi-Language makes Oracle Forms ready for worldwide operation

In today's global marketplace, many organizations face the challenge of delivering and supporting their Oracle Forms applications in different languages. PITSS.CON Multi-Language enhances Forms applications with an innovative system that allows the application to be executed in different languages without any changes to the source code. Being simple to implement and maintain, the PITSS.CON Multi-Language system has been successfully applied to a large number of customer applications. This solution has made it possible for each and every implementation to reduce the enormous maintenance effort and time to market.

The same Oracle modules, in as many languages as needed

Organizations often operate and maintain independently translated applications for each target language. PITSS.CON Multi-Language eliminates this extra administrative and development effort by making all translations available from a single source. At the same time, PITSS.CON allows new languages to be rapidly added without engineering changes. This significantly shortens the implementation and roll-out of new functionalities across all supported languages. When adding functionality, only the newly created text elements need to be translated, making the development and administration of a multi-language application extremely efficient.

Selecting the right language is as flexible as you want

The appropriate language can be displayed automatically, without any required action from the user; for instance, by using the client computer language settings. This language selection is also flexible: if desired, the multi-language capability can also let end users dynamically select their desired language.

100% automated: From back-end infrastructure to text translation

PITSS.CON ML automates the entire multi-language implementation. It first identifies all the text elements to be translated, such as titles, item prompts, and messages. A back-end database is created to store these text elements along with their translations. The application user interface is then dynamically connected to this back-end structure. The whole implementation process is fast and transparent. Even the translation of text elements can be automated, as PITSS.CON ML offers a choice of how to perform the translation: interactively from the PITSS.CON ML user interface, outsourcing to external agencies, or by dynamically generating the full translation using commercial web services.

- **Internationalize your Forms and Reports**, supporting multiple languages for the user interface.
- **Minimize maintenance efforts** by having a single source for all supported languages.
- **Create the full infrastructure** necessary for multi-language support automatically.
- **Translate texts dynamically** using interactive tools or external web services.
- **Set the language at runtime** flexibly, depending on user choice or system language.

Operating Forms in all languages of the world, from a single-source

PITSS.CON Multi-Language at a glance

PITSS.CON Multi-Language automates the otherwise tedious effort of maintaining Oracle Forms applications in multiple languages. It supports the same languages as Oracle Forms, including single and multi-byte character sets. For instance, a single source can be used for English and Asian languages such as Chinese or Taiwanese, within the same application, because of the dynamic assignment during runtime.

The step-by-step multi-language process is transparent, ensuring the 100% accurate and error-free generation of new, more versatile applications:

Identify text elements ▸ Generate backend infrastructure ▸ Translate text elements ▸ Rebuild application ▸ Execute

PITSS.CON automatically identifies and prepares for translation all the text elements contained in an application. Text translations can be performed using the PITSS.CON interface, external agencies or automated Web translation services. After redefining the application text, PITSS.CON Graphical Layout Editor can adjust the visual elements that may need to be expanded, adjusted in order to properly display the new text. When executing the new, now multi-language application, the relevant translated pieces of text will be dynamically retrieved during runtime, according to an end user's language setting.

Making the PITSS.CON Forms and Reports multi-language process as simple as possible, with only one set of source files to be managed and minimal maintenance needs, allows the applications to adapt easily to changing requirements and continue to sustain the business processes optimally for decades to come.

Figure 1: Dictionary

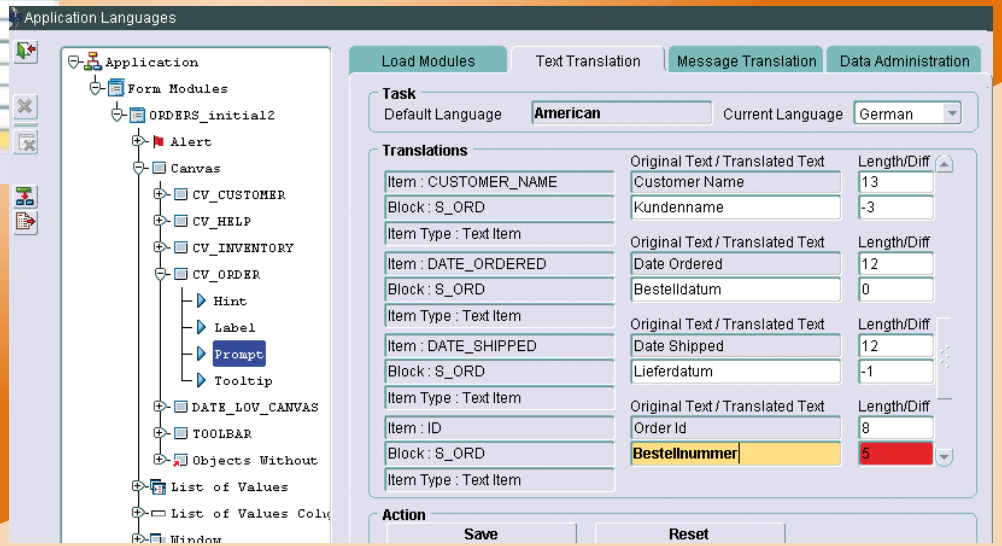


Figure 2: Module Language

PITSS.CON Multi-Language

- supports translation of text in any Oracle application files such as .fmb, .mmb, .olb, .pll and .rdf.
- translates any text elements, such as Window titles, Alert texts and titles, Item properties such as, labels, prompts and hints, Boilerplate texts, Frame labels, Image texts, Text strings in code, Message texts
- supports single and multi-byte character sets.
- is available for both Windows and Linux installations, both 32- and 64-bit.
- imports and consolidates the complete translations of Oracle Translation Hub and Oracle Translation Builder.

Post Translation:

- New languages can be easily added by using the back-end PITSS.CON ML infrastructure without affecting the deployed application or languages already in use.
- Newly implemented features or modules are seamlessly synchronized by the back-end PITSS.CON ML.

PITSS.CON Application Analysis

With PITSS.CON Application Analysis (PITSS.CON AA), Oracle Forms and Reports applications of all sizes and levels of complexity can be quickly and accurately analyzed, allowing organizations to take the guesswork and risk out of application development and maintenance. Using Oracle's own API and the analytical power of its centralized data repository, PITSS.CON Application Analysis performs a fast, detailed analysis of even the most complex and comprehensive applications and can be used for powerful what-if simulations, sophisticated research, and comprehensive reporting. This type of in-depth insight applies at every level, from day-to-day work to large-scale reengineering and migration projects. This allows the development teams to better understand connections and implement requirements, ensuring that your investment in Oracle Forms and Reports applications will pay off in the decades to come.

360° view: Your Oracle sources, how they act and interact

Oracle Forms applications are composed of much more than just plain FMBs. This is why PITSS.CON automatically loads, parses, and analyzes the entire application, including its menus, libraries, reports, database elements, and related technologies. It does so automatically for an application of any size, and tracks object details down to property level granularity to give extraordinary depth and versatility to research and analysis. With these tools, even your newest team members can easily understand how their Oracle application works and accurately estimate, plan, and implement upcoming changes.

What-if simulations and impact analysis

Changing the size of a database column is easy. Manually adjusting the related application so that it functions afterwards is not. This is especially true for Oracle Forms and Reports, where tight integration of logic and navigation is a core characteristic. For such tasks, PITSS.CON has special simulation engines that show the full implications of any change. This puts data behind your decisions, allowing the extent of work to be correctly assessed before a project is started or the impact of alternative approaches to be compared to identify the best scenario.

Broad range of research and analysis

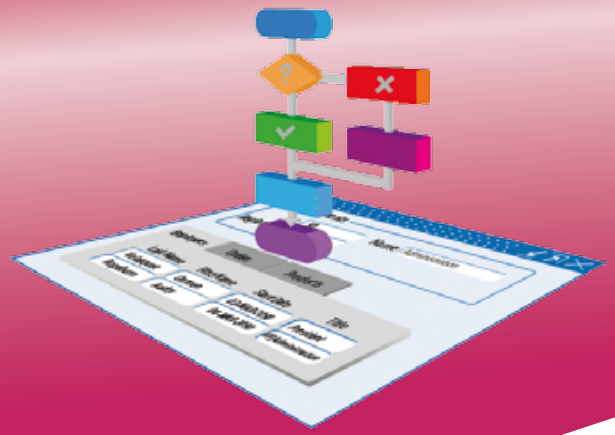
With PITSS.CON Application Analysis, creating highly sophisticated queries is as easy as a mouse-click, because PITSS.CON was built by developers for developers. It has everything you need to analyze an application without overcomplicating the process. Tasks such as tracking dependencies or finding obsolete or changed Oracle Forms built-ins are performed instantly. This enables any developer to understand and use existing business logic and program code – regardless of who created the original application.

Forms knowledge transfer = Investment protection

Most Oracle Forms applications were designed more than 15 years ago and have been modified and extended since then by many different developers. Knowledge transfer is now one of the main challenges faced by developers, teams, and organizations. This is why PITSS.CON comes with lots of easy solutions to enable deeper understanding and knowledge transfer in a usable format. This allows the reuse of application components, building a solid basis for future architecture or technology changes.

- **Gain a deep understanding** of all your Oracle application components and their structure.
- **Recognize all dependencies** including the use of functions, database or module objects.
- **Implement structural changes** such as adding column digits and automatically adjust all FMBs.
- **Perform a full impact analysis** of upcoming changes, identifying affected systems and side-effects.
- **Make accurate estimations** for future projects, assessing the time, costs and necessary skills.

Regaining control of Forms and Reports applications



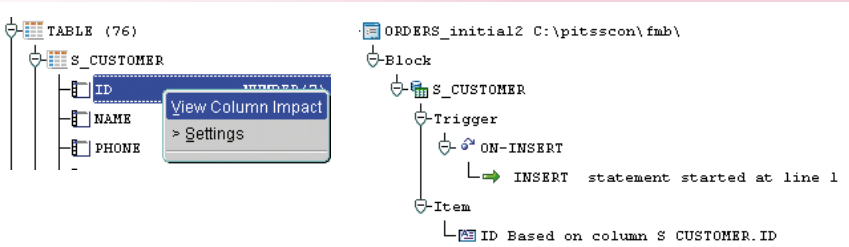
PITSS.CON Application Analysis at a glance

The PITSS.CON product suite was developed to cover the entire life cycle of Oracle Forms applications and provides a broad palette of comprehensive functionality. PITSS.CON Application Analysis is one of the core modules of PITSS.CON, expanding Forms and Reports Builder's analysis power by accessing PITSS.CON's Oracle-based repository and loading, parsing, restructuring, and further developing the application. By visualizing thousands of modules at once, Application Analysis gives Forms developers a broader view of the application, including details such as item properties, code, and layout editors. With full access to all of this stored, detailed data, Forms developers can generate an unlimited number of predefined or custom analysis and reports and use them as input for detailed project timeline calculations and task lists.

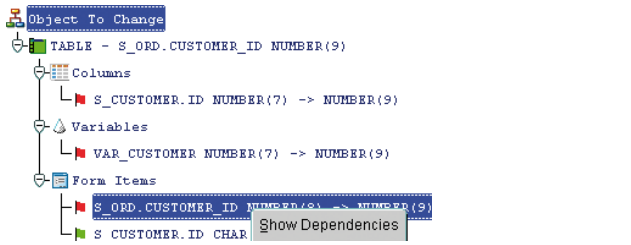
PITSS.CON Application Analysis Examples

- **Viewing Dependent Objects:** Showing where a selected object (module, program unit, built-in, database object) is used. Example: if the selected object is a database trigger, then the lines of code firing the trigger will be displayed.

- **Usage of table columns:** Finding where a table or column is used anywhere within the whole application requires just a simple mouse click, no matter if it needs to parse 1 or 10,000 modules.



- **Performing safe architectural changes:** Performing architectural changes such as increasing the size of a column can be a risky operation. Sometimes these changes are necessary, such as extending an invoice ID column with space for additional digits. PITSS.CON can help safely track the impact of changes to module and database objects and successfully implement the changes.



PITSS.CON Application Analysis

- works with any version of Oracle Forms and Reports.
- considers for parsing and analysis all application components, including FMBs, MMBs, OLBs, PLLs and RDF files as well as Java, PL/SQL and C code.
- can also execute predefined and custom functions as batch commands.
- supports preparatory measures for SOA enabling or other modernization efforts.
- uses impact analysis to verify whether changes to business logic and processes can be implemented within time and budget limits.
- leads to time and cost savings by using automated analysis and reengineering functions.
- includes documentation support: all analysis results can be exported as text, HTML or PDF reports for integration into software documentation.

PITSS.CON Application Engineering

With PITSS.CON Application Engineering (PITSS.CON AE), Oracle Forms and Reports applications can be prepared to meet any technology modernization challenge. Whether the target is Oracle Forms and Reports 11g, ADF, APEX, or another technology, PITSS.CON AE will help you get your application there safely and within budget. More than a decade of experience in hundreds of successful Forms migration projects has been distilled into a unique and powerful suite of modernization processes. The resulting step-by-step, guided methodology is intended to reduce the risks by implementing service-oriented principles in Forms applications such as increased connectivity and maximized reuse, for instance by exposing business logic as web service and reusing it in ADF, Forms, and any other technology.

Seamless Forms Migration to SOA

PITSS.CON Application Engineering is part of a complete, end-to-end application life cycle product suite designed for Oracle Forms. It enables developers to reap the benefits of SOA by evolving applications in the most effective, efficient way, allowing Oracle Forms to co-exist with new, modern applications while ensuring complete protection of your Oracle Forms investment.

Cleaning unused objects – Migrating only what is useful

Thirty percent of Forms applications objects are obsolete. This proportion can run even higher for Designer-generated modules. Chasing these obsolete functionalities through thousands of files can be a frustrating game. Not with PITSS.CON. With just a mouse click, PITSS.CON searches the entire application and generates comprehensive reports. Reducing the logic by thousands of lines of code leads to significant savings in maintenance and development costs and allows modernization efforts to be targeted at the pure core functionality – 30 percent less code means 30 percent lower costs.

Reusing source code – Modernizing without reinventing the wheel

The source code is the heart of an application. It encapsulates years of development and business-critical know-how. Protecting this asset within a new architecture is an essential part of any modernization strategy. PITSS.CON rearchitects the application to optimize source code reuse. The Redundancy Analysis component identifies similar program units and groups them in central libraries. Transferring the data access layer and business logic to the database makes the business logic independent of the user interface. This measure prevents extensive code rewrites with every future user-interface modernization and accelerates the process of migration from Forms to ADF, Java, or any other user interface.

Compatible with the Future: DAL & Web Service Wizards

Connectivity and compatibility are the keys to an open architecture. Preparing database applications for the future also means applying these service-oriented architecture (SOA) principles. PITSS.CON Application Engineering has developed wizard-based tools that safely apply these principles to even the most complex applications. Its DAL (Data Access Layer) Wizard simplifies data manipulation by generating a central access layer, remapping this layer to the application. Web Service Wizard automati-

- **Protect the investment** in Forms, porting module's business logic to the database.
- **Reduce up to 35% of module size** and complexity for typical Forms & Reports applications.
- **Simplify Forms applications** identifying and removing any unused or redundant object.
- **Go service-oriented** exposing the stored business logic as web services.
- **Design Data Access Layers** with wizard-based tools for better connectivity & security.

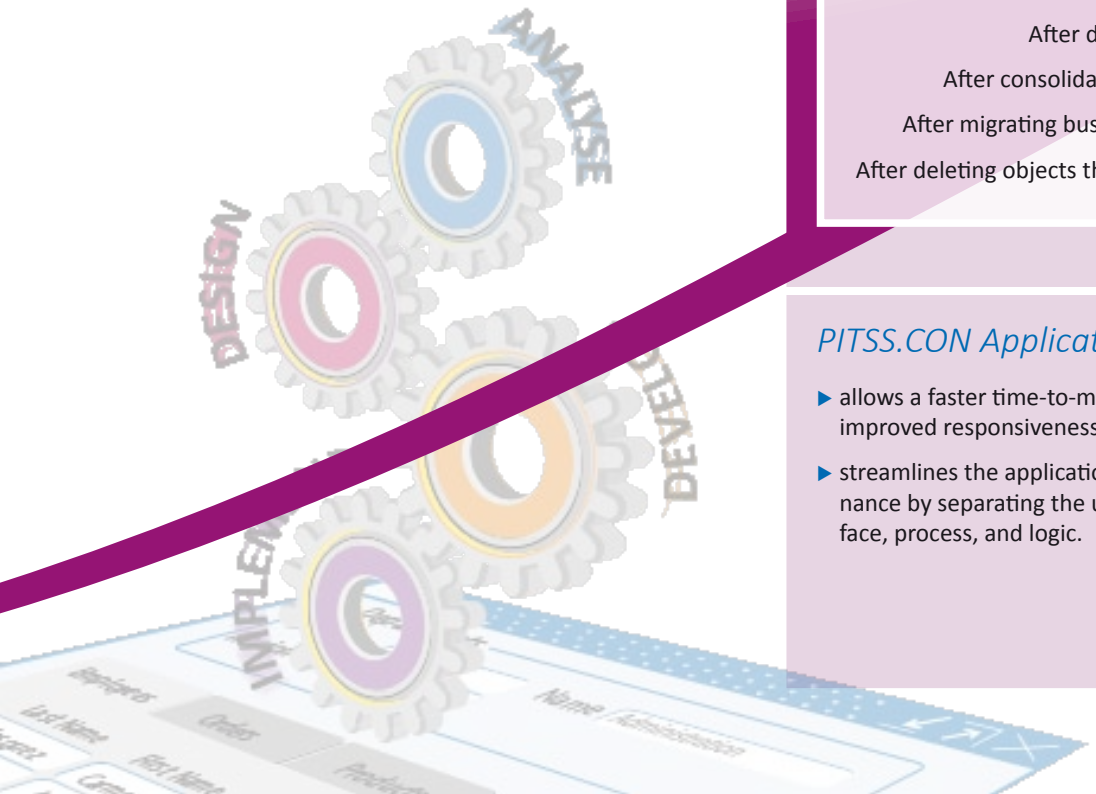
Getting the best out of Oracle applications

cally generates web services for the newly created database program units, allowing orchestration with internal and external services within a BPEL or BPM process. The result: a smooth, seamless evolution from Oracle Forms to SOA.

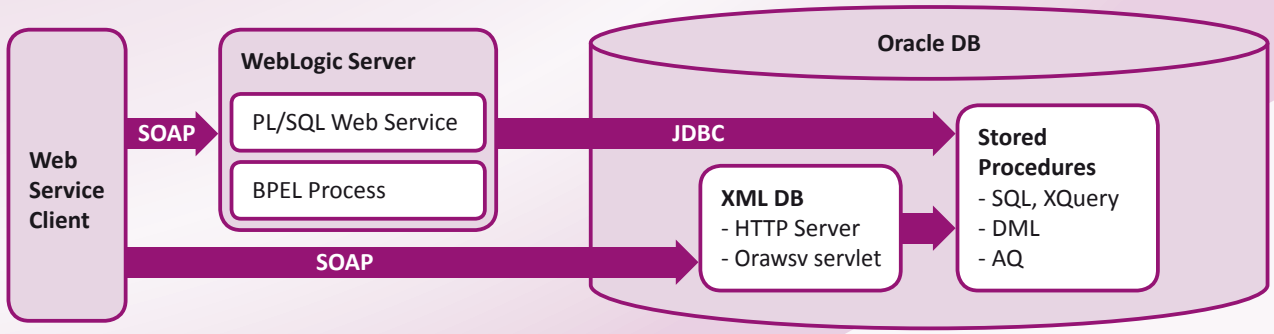
PITSS.CON Application Engineering at a glance

Service-oriented architecture (SOA) is a philosophy that defines the interaction of entities, in most cases of web services. The main challenge is to migrate existing applications to this new environment and to enjoy the benefits of SOA without having to completely rewrite the applications.

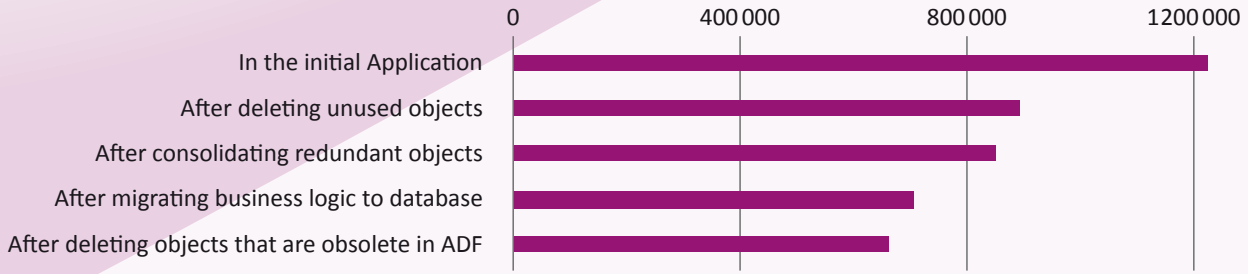
PITSS.CON is designed specifically for Oracle Forms. PITTS.CON Application Engineering assists with the process of extracting the business logic and data access layers from the Forms modules. The logic that has been encapsulated in Forms processes can then be used in a variety of applications, for instance as web services.



Business Logic as Web Service



Lines of Code in Forms & Reports



PITSS.CON Application Engineering

- allows a faster time-to-market and improved responsiveness.
- streamlines the application maintenance by separating the user interface, process, and logic.
- offers a series of benefits by moving the business logic to the database:
  - the migrated database code can be reused by other applications directly or exposed as web service;
  - the Forms application will be simplified and therefore easier to migrate to other technologies like Oracle ADF or APEX.
- offers methods and no philosophy: In a real-life migration project from Forms to ADF 11g, alone by reducing the lines of code by up to 45% has generated significant time savings and costs reductions (see chart above).

PITSS.CON Forms & Reports Upgrade

With PITSS.CON, any Oracle Forms and Reports application can be upgraded and modernized to the latest supported versions in a fraction of the time it would take to do so manually. At the heart of the upgrade process are technologies such as PITSS.CON Oracle Repository, Templates, and API-based routines. Applied to and perfected for thousands of Oracle Forms applications, these technologies allow PITSS.CON to handle even the most complex Oracle modules and reengineer them to fully functional, modern applications. This approach eliminates security risks and compliance issues while taking full advantage of the features and functionality available in newer releases.

Full automation of upgrade projects

PITSS has gained extensive migration expertise during its many years of successfully performing thousands of customer upgrade and migration projects. This in-depth knowledge is implemented in PITSS.CON – a unique expert system that is in line with Oracle's best practices and can be easily adjusted to new challenges. The predefined migration steps, bundled in PITSS.CON "Projects," are thus delivering the highest degree of automation possible.

Precise replacement of obsolete and changed components

The primary challenge during upgrades and migrations is to identify all areas affected by the built-ins and the functionality changes brought by the new Forms and Reports versions. PITSS.CON converts the code sources to their appropriate equivalents in the target Forms and Reports version while identifying all the application's obsolete elements and replacing them with supported constructs. All of this is in detail, documented, and at minimum risk.

Fast and secure – with predefined templates

The automated templates and projects are not only fast – they're also extremely secure. They contain the know-how necessary to solve all the challenges in upgrade projects and to respond to all customer needs and requirements. Thousands of modules can be modified at once with a single click – all of this while creating modern, 100% Oracle-compatible applications and eliminating the human errors typically associated with manual upgrades.

One-step upgrade from any version to any version

PITSS.CON eliminates the need to upgrade to intermediate versions. Even when upgrading from the character-based Forms v2.3 and Reports v1 to Oracle Web Forms 11g, PITSS.CON automatically upgrades directly to the targeted version, with no additional effort or in-depth knowledge of the changes required.

With Forms and Reports 11g to SOA and the future

The latest release of Oracle Forms 11g demonstrates Oracle's continued commitment to the Oracle Forms and Reports development platform and includes many new functional and technical enhancements. Upgrading Forms and Reports is an important step on the path to a service-oriented architecture (SOA), which brings with it the WebLogic server, or to new Java-based technologies such as Oracle's Application Development Framework (ADF).

PITSS.CON Forms und Reports Upgrade at a glance

The PITSS.CON Repository, the foundation of PITSS reengineering mechanisms, consists of Oracle database tables containing the complete information of an application. The application is loaded using pure Oracle Forms API and Reports XML and broken down into its smallest components and then reengineered

- **Upgrade quickly and safely** complex Oracle Forms and Reports applications to 11g.
- **Save 90% of the time and cost** budget by choosing to invest in innovation rather than routine.
- **Stay current on latest releases** to ensure continued support, compliance, and security.
- **Web-enable Forms modules**, making them easily accessible to end users worldwide.
- **Be better prepared to adapt** to changing business requirements.

Oracle Forms upgrade made easy

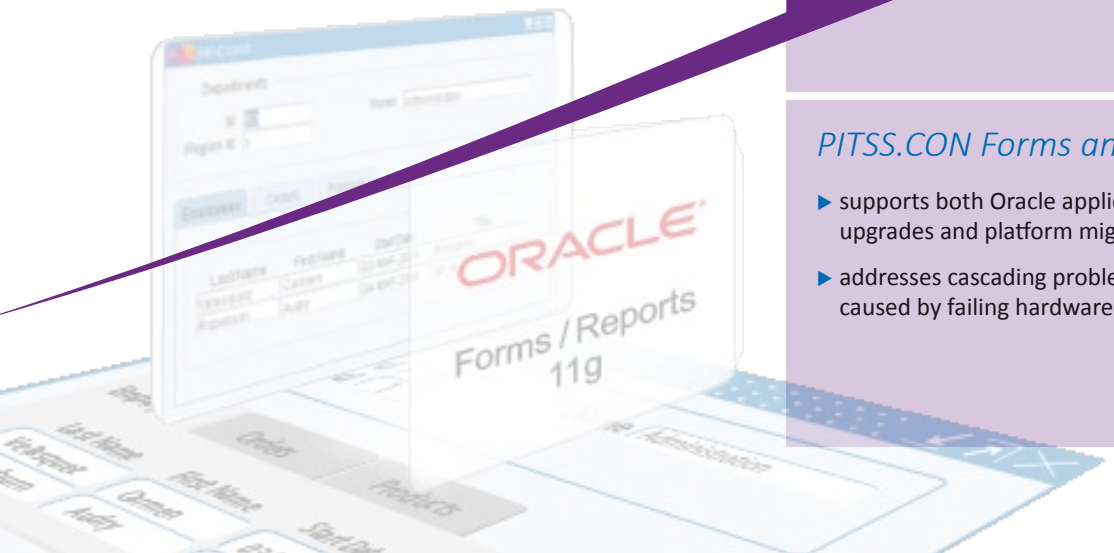
and recreated. This allows PITSS.CON to upgrade the modules without altering the source code or adding proprietary constructs. Obsolete constructs are replaced using templates. For example, Forms obsolete built-ins are replaced with corresponding workarounds. A thorough documentation of the changes is automatically generated.

Conversion rate in Forms and Reports upgrade projects: Nearly 100%

To reach this degree of automation, PITSS.CON manages the entire application, taking into consideration all its sources and inter-dependencies. This makes the process also extremely fast, allowing upgrade projects to be executed in record time. For enterprise applications consisting of thousands of modules, PITSS.CON uses predefined Projects that can be scheduled to run as overnight batch jobs, making efficient use of idle computer time on nights or weekends. And the best side-effect of speeding up the upgrade is that the process can be performed without significantly interrupting the application development process.

And the journey is just beginning!

Oracle Forms 11g and PITSS.CON Repository open up a whole new palette of possibilities for your database application. Whether assisting with the porting to other platforms, bringing Forms modules to a better web look and feel, equipping them with multi-language capabilities for international deployment, or integrating Forms into modern technologies – All roads are open!



Supported Forms and Reports versions

PITSS.CON has been successfully used in modernizing even the earliest Forms and Reports applications, such as:

Initial version	Converted with PITSS.CON 11 Upgrade
Forms 2.3 and V2-style triggers	Forms 11g
Reports 1 or 2.5	Reports 11g
Forms 3 character mode	Forms 11g
Forms 4.5 or 5	Forms 11g
Forms and Reports 6i client/server	Developer Suite 11g
Developer Suite 9i or 10g	Developer Suite 11g

PITSS.CON Forms and Reports Upgrade

- supports both Oracle application upgrades and platform migrations.
- addresses cascading problems caused by failing hardware.
- upgrades from any version to any version in only one step.
- requires no code-freeze phase.

Post Upgrade Tips:

- Add multi-language capability to use the application internationally.
- Adjust the display for optimal rendering on modern screen resolution by automatically resizing all the visual objects.
- Modernize the user interface to confer a modern, consistent web look and feel to the entire application.
- Enjoy the benefit of automated search and replace capabilities, not only for Forms but for the entire application source code and properties.

PITSS.CON Forms to ADF

PITSS.CON makes possible successful migrations from Oracle Forms to the Oracle Application Development Framework (ADF). Based on PITSS.CON's analysis and reengineering power, the Forms to ADF Assistant is uniquely equipped to support the migration of enterprise Oracle Forms applications to the Oracle ADF and JEE architecture. Next-generation technologies, such as ADF Business Components and JSF/ADF Faces, will bring the application into the 21st century in a guided process that protects the investment of the core functionality developed in Oracle Forms over the years.

Know-How "to go" – fundamental expert knowledge

PITSS.CON combines research, years of experience, innovation, and practical solutions for diverse migration projects in an easy-to-use product with ingenious methodology. Its ADF Assistant facilitates a productive combination of automated processes and human decisions in implementing core redevelopment tasks, increasing the modules' reuse of components, and laying out a consistent architectural basis for the entire application. Thus, learning becomes part of the process, allowing the development team to understand and use the technology from the very beginning to prepare the application for tomorrow's business needs.

Phased approach for enterprise applications

Oracle's statement of direction recommends a phased transition of legacy Forms applications to JDeveloper and ADF. To accomplish this transition, PITSS.CON considers all application components from a global perspective, including all of their dependencies and associated technologies. By implementing practical, flexible solutions and service-oriented hybrid architectures, PITSS.CON takes advantage of both Forms and ADF 11g sweet spots and minimizes the risks associated with any migration project.

Cost-effective, automated solutions to protect the investment in Oracle Forms

PITSS.CON automation processes have been thoroughly tested and optimized in mid-sized and large migration projects at PITSS. This guarantees that the source code resulting from a PITSS.CON migration is identical to a manually developed one, fully complying with Oracle's best development practices and JEE SOA-recommended architectures.

Productivity boost at no hidden costs

No PITSS-proprietary artifacts are added to the migrated application during the reengineering process, since the entire redevelopment uses pure standard Java and ADF components.

State of the art ADF architecture

Oracle ADF 11g is a mature, robust, and complete environment able to sustain even the most complex business needs. It complements Oracle Forms applications with excellent connectivity, web and mobile deployment, and a modern web user interface. Migrating to ADF can start today with a process specially designed to ease the technology transition, reduce costs, minimize risks, and prepare your development team for the future.

- **Migrate quickly and safely** complex Oracle Forms applications to ADF and JEE.
- **Get accurate time estimates** down to each individual module and project phase.
- **Take architectural decisions flexibly**, according to business needs, strategies and skills.
- **Implement SOA principles** increasing the reuse ratio and designing a clear architecture.
- **Refactor to standard-based**, native Java and XML code, free of proprietary components.

Just as safe and much faster than a handmade rewrite

PITSS.CON Forms to ADF Assistant at a glance

Using a unique repository approach, PITSS.CON parses and re-engineers the entire Oracle Developer application. All application sources are decomposed using Oracle's own API into metadata information and business rules and then stored and managed in an Oracle database. Parsing and engineering engines have been perfected over the last 10 years, being used in upgrading, migrating and modernizing thousands of Developer applications. The migrated application is recreated using native API, which ensures 100% consistency and standards compliance for the resulting source code. The process automates the exact development steps that would be used in manual reengineering projects but reduces the risks and manual errors that are typically associated with them.

Conversion Grade		
Data Model	Fully automated	'Handmade' architecture for the entire application.
User Interface	Partly automated	Relevant objects are converted.
Business Logic	Partly automated	Optional migration of PL/SQL to DB, Java or manual redesign.

	Oracle Forms Object	Converted with PITSS.CON 12 Forms to ADF Assistant
Blocks	Based Blocks	Yes, all data sources
	Control Blocks	Yes
	Master-Detail Relations	Yes, to any depth
Block Items	Text	Yes
	Display	Yes
	Button	Yes
	Check Box	Yes
	List	Yes
	Radio Gruppe	Yes
	Baum	Yes
	Bild	Yes
	Java Beans	No (most are obsolete in ADF)
Other Objects	Alarm	Yes
	Canvases	Yes
	Editors	No (not customary for web)
	LOVs	Yes
	Parameters	Yes
	Popup Menus	No (require manual redesign)
	Windows	Yes

Most Forms objects can be automatically translated to ADF.

A 1-to-1 conversion is not possible, because of the architectural differences between Forms and Java. This is why manual fine-tuning is typically needed to adapt the business logic to Java ADF standards.

The generated documentation includes full mapping between the initial Forms application objects and the ADF-generated components as well as a detailed list of post-generation steps to fully recreate and modernize the application.

PITSS.CON Forms to ADF

- creates a natural target architecture and an application that looks "hand-made" and is therefore easy to maintain and further develop.
- considers during migration the entire application as a whole, not just as disparate modules.
- generates ADF applications that are free of proprietary components and can be, therefore, directly opened and executed within any Oracle JDeveloper installation.
- A typical output of a migration process would consist of folders containing Java, XML and documentation files:

- Java Classes: JAVA Files
- Business Components: XML Files
- Configuration: XML Files
- Task Flows: JSF Pages
- Project Definition: JPR Files
- Application Definition: JWS Files
- Documentation: LOG Files
- Bundle Properties: PROPERTIES Files

PITSS.CON Forms to APEX

With PITSS.CON, Oracle Forms can be successfully migrated to APEX. The product that revolutionized Oracle Forms and Reports migration is now revolutionizing the Forms to APEX redesign. PITSS.CON is loaded with technical capabilities that make modernization projects a lot easier than most would expect. Because software migrations are always more complex than simple one-to-one rewrites, PITSS.CON reengineers more than just visual components into modern APEX web layouts. By removing the unused components from the application and transferring and rearchitecting the core business logic to the database, it opens the way to modern technologies. This approach preserves the company's investment in Oracle database applications and helps create new APEX web applications that fully meet modern requirements, Oracle best practices, and service-orientation (SOA) standards.

Investment protection with Oracle APEX and PITSS.CON

It is built in the Oracle database. It uses PL/SQL. It offers fast and secure application development. These are just a few of the reasons why Oracle Application Express has become so popular. We have found that even in complex enterprise applications, APEX is a great solution that complements other modern technologies like Oracle Forms 11g or ADF. But the most interesting fact is that the same principles that strengthen APEX applications are also the ones PITSS.CON uses to protect the software investment: maximizing reuse while minimizing redundancies.

Maximized reuse: Faster, accurate Oracle Forms to APEX migration

Even though Forms and APEX have significant architectural differences, there are still a considerable number of Forms components that can be automatically redesigned to APEX. PITSS.CON Forms to APEX uses a repository approach that parses all application objects and tracks their dependencies. PITSS.CON reengineers the application afterwards into the desired Oracle APEX and Web 2.0 standards-based architecture. This approach maximizes the degree to which Forms components can be reused in the migration process, so that the development is targeted at non-routine tasks such as application fine-tuning, enhancement, and technology integrations.

Managing the entire application: All the modules – libraries – databases

PITSS.CON is perfect for redesigning Forms, no matter how complex they are. It scales from small pilot migrations up to redesigning thousands of modules at once, including related libraries and database objects. It is the only product on the market with an integrated approach that includes redundancy cleaning, code optimization, and migration of Forms business logic to the database.

100% pure Oracle APEX: No proprietary components

PITSS.CON generates APEX applications consisting of standard Oracle techniques and programming interfaces (APIs) that are free of any proprietary components or unnatural constructs. This makes them compatible with all current APEX versions. It all means that new modules can be integrated into an existing APEX installation without importing external components into the system, so that the new APEX modules can be developed, upgraded, and maintained in years to come.

- **Speed up the Forms to APEX redesign** to a fraction of the time required by manual conversions.
- **Generate pure Oracle APEX artifacts**, without any non-Oracle proprietary components.
- **Adapt to APEX architecture**, adjusting page navigation and transaction management.
- **Document the migration process**, easily prioritizing and managing the redesign steps.
- **Assess the migration effort accurately**, down to individual modules and project phases.

More than migration: The complete Forms to APEX solution

PITSS.CON Forms to APEX Assistant at a glance

PITSS.CON uses a repository approach to load, parse and reengineer entire Oracle applications. In this process, all input sources are decomposed, using native Oracle API, into metadata information and business rules and they are then stored and managed in PITSS.CON Oracle database schemas. More than ten years of upgrading, reengineering, migrating and modernizing thousands of customer applications have continuously improved the PITSS.CON parsing and reengineering engines to near perfection.

After the parsing, analysis and preparation phase, the PITSS.CON APEX migration reengineers and recreates the application using the native Oracle APEX API. The process ensures 100% consistency and standards compliance for the resulting source code. The same development steps that would be used in manual reengineering projects are automated in this process, while reducing the risks and errors that are typically associated with a manual migration.

	Oracle Forms Objekt	Konvertiert mit PITSS.CON 12 Forms to APEX Assistant
Blocks	Based Blocks	Yes
	Control Blocks	Yes
	Master-Detail Relations	Yes
Block Items	Text	Yes
	Display	Yes
	Button	Yes
	Check Box	Yes
	List	Yes
	Radio Group	Yes
	Tree	Yes
	Image	Yes
	Java Beans	No (most are obsolete in APEX)
Other Objects	Alerts	No (manual redesign)
	Canvases	Yes
	Editors	No (not customary for web)
	LOVs	No (manual redesign)
	Parameters	Yes
	Popup Menus	No (manual redesign)
	Windows	Yes

Most Forms objects can be automatically translated to APEX.

Manual fine-tuning is typically needed to adapt the application transaction model and navigation flow to the APEX architecture.

The generated documentation includes a full mapping between the initial Forms application objects and the APEX-generated components (Object-Mapping) as well as a detailed list of post-generation steps to completely modernize the application.

PITSS.CON Forms to APEX

- creates pure APEX applications, which can be directly imported into any APEX installation and are easy to maintain and further develop.
- keeps track of all application sources and their dependencies during the migration.
- offers an easy, step-by-step approach:
  - prepare the application
  - migrate
  - import into APEX
  - fine-tune
  - execute
- documents the application and migration steps thoroughly.
- integrates the new APEX modules with existing Forms and Reports applications (co-existence).
- supports the process with professional consulting and training sessions, tailored to specific needs.

PITSS.CON Source Code Analytics

With PITSS.CON Source Code Analytics (PITSS.CON SA), the necessary relevant information for strategic Oracle Forms decisions is available from the very beginning of a project. Because deciding on the best strategy for business-critical applications often takes more than intuition, PITSS.CON includes Source Code Analytics as the platform for Oracle Forms, which underpins decisions with facts. Meaningful reports and detailed statistics reveal every relevant piece of information needed to back up strategic decisions. Fully automated and easy to use, these results deliver continual and objective reviews of the quality of an application, enabling active risk management, significant improvements, and considerable cost reductions.

Decision-making basis for Oracle Forms and Reports

Whether selecting the future architecture for the application, considering a smooth integration with external elements, or simply analyzing the development quality of program modules, PITSS.CON Source Code Analytics is the sound decisioning framework that puts facts and data behind the right choices. Making amazing things simple requires cutting-edge technologies: Source Code Analytics is based on PITSS.CON's comprehensive repository and specific parsing capabilities, which give a thorough analysis of all levels of a complex Forms and Reports application. The resulting raw data is processed into statistical information and visual representations. This leads to a clear understanding and accurate assessments of any upcoming changes to the Oracle applications.

Comprehensive management reports make the invisible visible

Management reports provide ideal, application-specific summaries. They are available anytime with just one mouse click and offer a current overview, the equivalent of a health check for the Oracle investment. Such reports are a must when embarking on a new project in order to understand the starting situation and estimate the project needs. The progress of work after each development phase can be proactively measured against a set of standard performance indicators. What once was hidden project insight now easily comes to light.

Realistic cost estimation through simulation engines

Manually estimating the effort and impact of change requests can be a very difficult task for enterprise Forms and Reports applications. Not so with PITSS.CON SA: its deep parsing mechanisms with resulted dependency analysis provide accurate estimates that put man-hours behind development tasks or individual modules.

High quality and performance indicators

Quality can be measured. A carefully selected set of standard performance indicators will provide valuable information about the quality and complexity of an application. Indicators such as "most used objects," "number of lines of code," or "code comment ratio" can detect problem areas and make progress measurable. Having a better understanding of the nature of an application allows managers to reduce maintenance and costs. The value of the application can be increased, thus bringing it to a far better position to migrate to technologies like Oracle ADF/JEE, APEX, or any other user interface.

- **Get a quick insight view** into entire Oracle Forms and Reports applications.
- **Take strategic decisions** based on the real facts and data of your Oracle investment.
- **Control the design quality** using a standard set of performance indicators.
- **Visualize the architecture** from different angles and evaluate redesign scenarios.
- **Perform impact analysis** and accurately estimate the costs and results of an action

The bare facts and data behind successful Oracle decisions

PITSS.CON Source Code Analytics at a glance

Source Code Analytics is a management tool designed to give a quick and comprehensive understanding of a Forms and Reports application. All application elements are loaded into the PITSS.CON Repository: FMB, PLL, OLB, MMB and RDF modules, database objects, SQL scripts and external components such as embedded SQL in C, C++, ProC or Java. Metadata and detailed statistical data such as “Number of program units” or “Number of lines of code per object” are computed using a powerful parsing process that considers all the dependencies on objects and code components. Recognized software metrics as McCabe, Halstead, etc. allow an objective assessment and lead directly to the source of the problem. The development team quickly gains back control and can in no time improve the quality and thus the value of the application. Any modernization process can thus be measured against a set of key performance indicators.

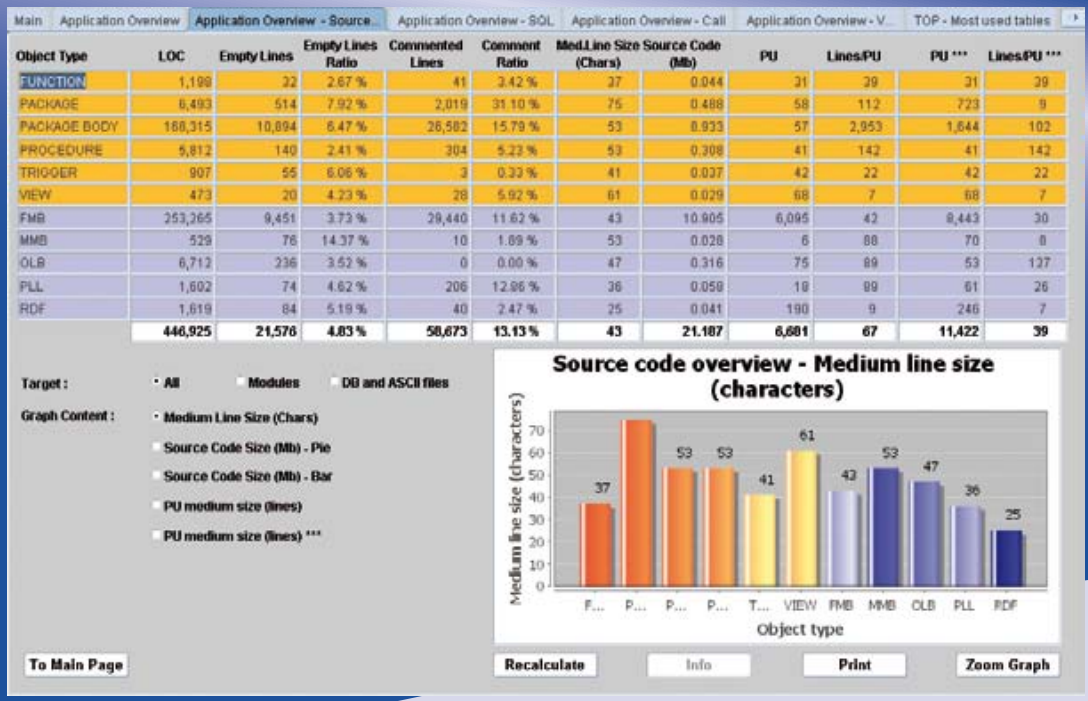


Figure: Reporting „Application Overview – Source Code Overview“ with PITSS.CON SA

PITSS.CON Source Code Analytics

- offers a variety of graphics and visual representations in order to convert the raw, highly technical data constructs into simple information that is useful in the decision-making process

The Application Overview can be generated for different application areas.

The Application Overview screenshot (above) displays the source code distribution and related quality indicators:

- Business logic contained in:
  - FMB, MMB, PLL, OLB and RDF modules
  - Database functions, procedures, packages and triggers

- Some example quality indicators are:
  - Average program size
  - Medium line size
  - Comments per line of code (Comment ratio)
  - Naming conventions
  - Programs usage
  - Global variables usage
  - Table usage
  - Dead code percentage
  - Redundant code
  - Error handling
  - Quality metrics such as McCabe and Halstead

PITSS.CON Source Control

With PITSS.CON Source Control (PITSS.CON SC), files of any type and size are optimally managed, organized, and protected. Specifically designed for Oracle development, PITSS.CON Source Control has all the features needed to keep sources secure – without the complications and administrative hassle of traditional configuration management systems. Thanks to the power of its Oracle-based technology, PITSS.CON Source Control safely manages files of any type or size: software sources, documents, and even entire Oracle database schemas. This enables project teams to fully control the entire development process, mediating changes and keeping all project artifacts in a single, central repository.

Software configuration management made easy

We have made Source Control so easy and intuitive that it is no longer reserved for only a few computer specialists. Tasks like checking in, freezing an application, and restoring past versions, as well as copying, branching, or sharing files are easily and safely accessible in Source Control to all the contributors of a project, under granular access rights defined for individual users, projects, and subprojects. This is because, in order for a project to succeed, it often takes more than simply storing snippets of code on various devices. What we need is to easily manage and accurately document the changes that occur in all project artifacts, including requirements, manuals, source code and, for database development, even whole database schema definitions. PITSS.CON Source Control takes over these file organization and administration needs.

Any file type – even Oracle database schemas

Saving the database work at the end of the day or project phase is as easy as a mouse click. PITSS.CON Source Control automatically connects to the database schema, searches for any modified objects, and then checks in the corresponding data definition. In this way, any past version of a file can be safely restored, no matter its type: Forms, Reports, documents, text files, database objects, etc. Moreover, PITSS.CON Source Control can generate the definition of any past version of a full database schema by producing a schema script. This script can be easily included in a product build or deployment process afterwards.

Fully integrated with PITSS.CON

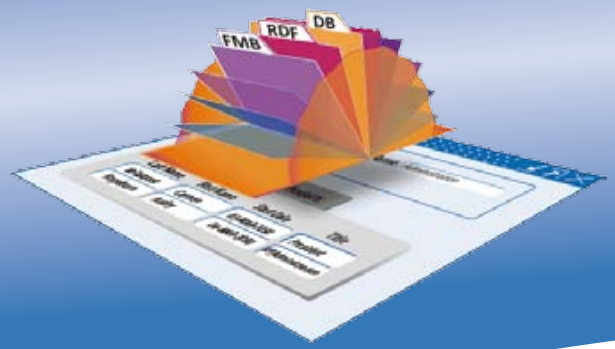
PITSS.CON Source Control can be used either as a stand-alone product or as a fully integrated extension to PITSS.CON, which offers a complete development environment for Oracle Forms and Reports applications. Modules can be checked out from PITSS.CON Source Control, developed with PITSS.CON, and then checked in again and documented using PITSS.CON Source Control.

Performance, safety, security, scalability

PITSS.CON Source Control offers performance and ease of use while taking advantage of the safety, security, and scalability inherent in the Oracle database. The Oracle-based technologies and web browser allow teams distributed on different continents or users working from home to have instant access to the necessary documents and sources. This assures a fast overview of all project objects and file versions, no matter how big the repository becomes over time.

- **Centralize the management** of all project sources and improve team collaboration.
- **Check in Oracle DB objects** such as tables, views, stored packages and many more.
- **Control the development** and change process and keep everything flowing smoothly.
- **Automate the build process**, compiling and deploying code sources at the push of a button.
- **Start right away**, without extensive training or fulltime, dedicated administrator.

Oracle development completely organized in a central repository



PITSS.CON Source Control at a glance

Access rights can be customized for individual files, projects, users, or action types: developers can define projects, releases, subprojects, or collections of files, logically managing any virtual set of source files that represents a specific application version or release. This is particularly relevant for large development teams, in which individual members are allowed to access and modify only the modules specified in the security definitions.

The management of Oracle database objects is an important part of an Oracle project. Traditionally, database development has been managed by saving, from time to time, the database scripts associated with various database objects. However, managing these scripts and integrating them into the whole product process was difficult, as it often incurred synchronization challenges. PITSS.CON Source Control manages both product files as well as database scripts in a common repository. This approach simplifies the development, test, build and deploy processes, eliminating any synchronization risks.

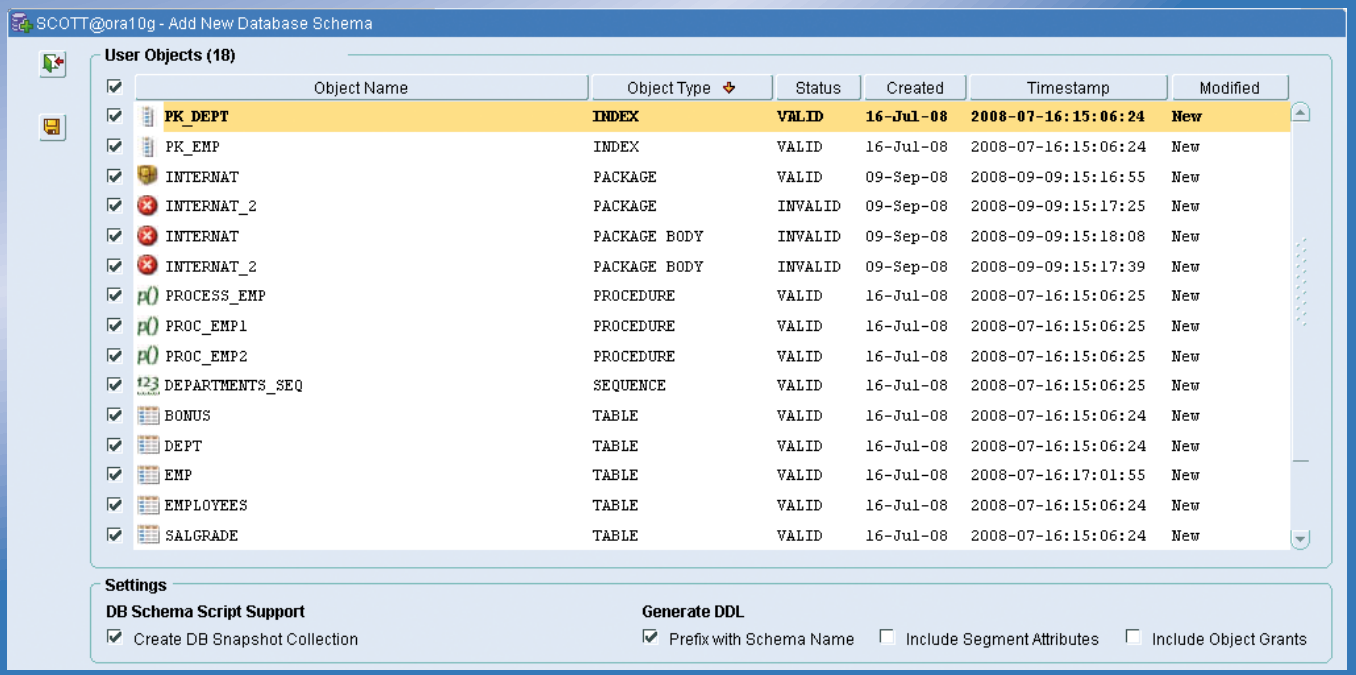
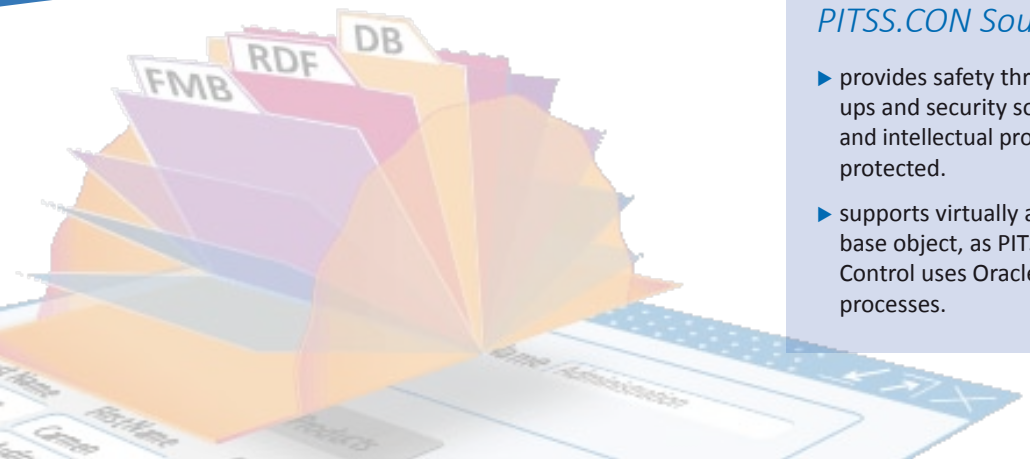


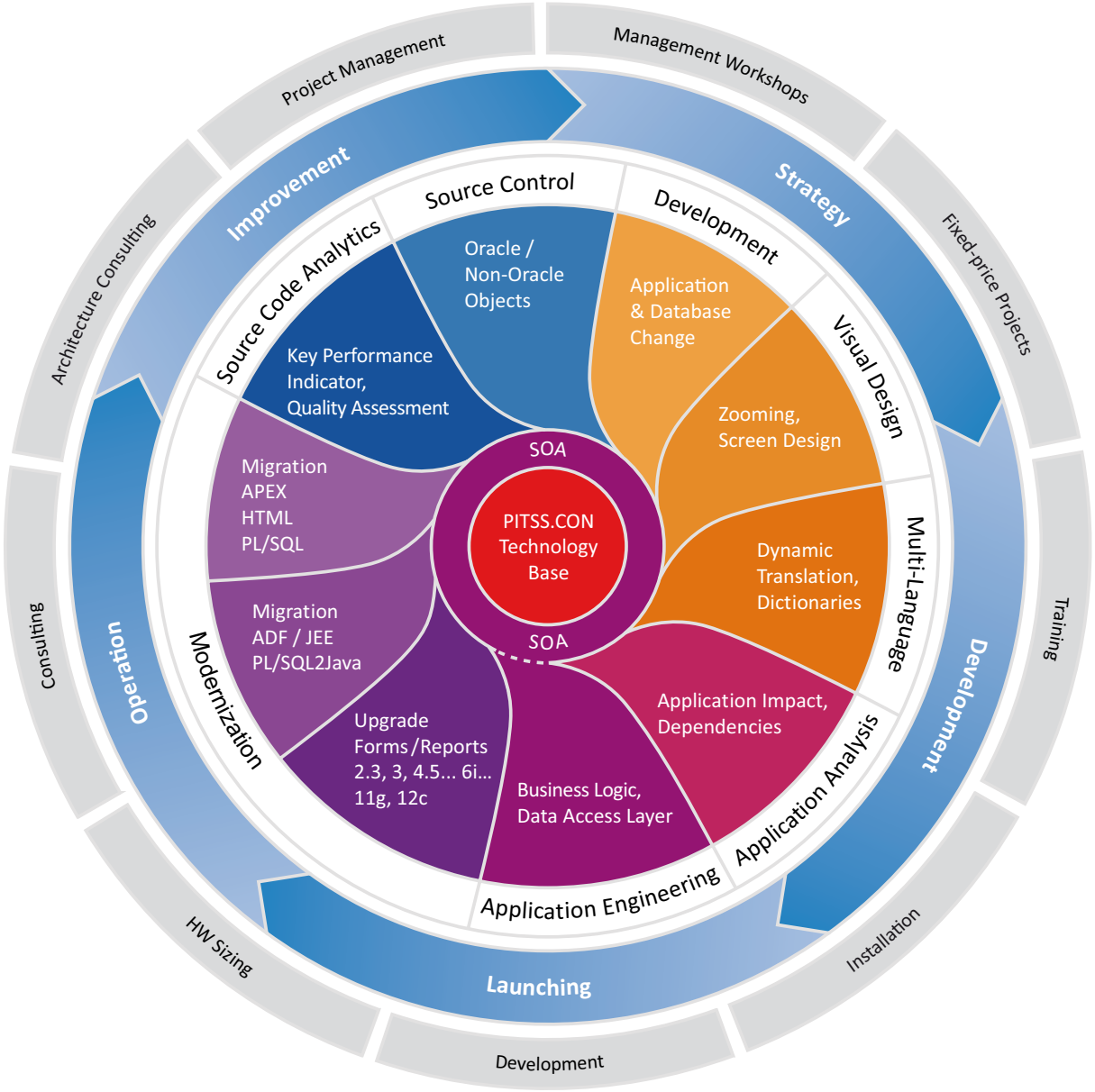
Figure: Managing database objects with PITSS.CON Source Control



PITSS.CON Source Control

- provides safety through Oracle backups and security so that applications and intellectual property are optimally protected.
- supports virtually any Oracle database object, as PITSS.CON Source Control uses Oracle's own metadata processes.
- Comprehensive reports allow a complete control over each project artifact. Easily customized, they offer the desired depth of information, such as a quick overview of the development history or a complete list of all the changes performed for a selected file or project.

PITSS.CON In Practice



PITSS makes ITIL® realizable

ITIL® describes best practices for the entire life cycle within IT – starting with strategy and development through to launching, operating and optimization in comprehensive publications.

PITSS.CON and PITSS Services are our offer to Oracle Forms customers to draw maximum benefit from ITIL®-compliant process steps.

In best practices according to ITIL®, PITSS supports the implementation of life cycle management and agile development.

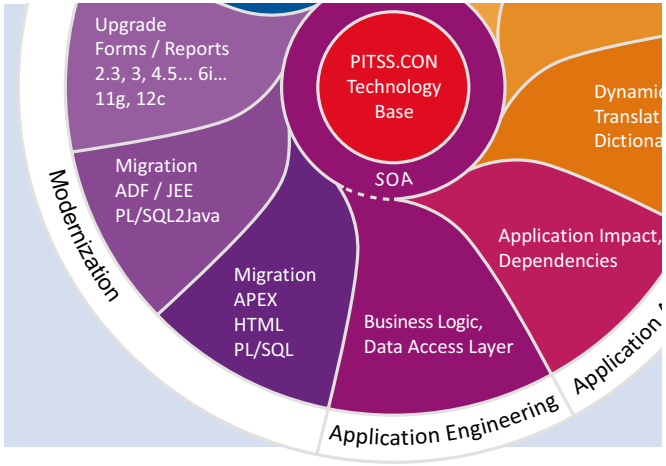
In PITSS.CON, we offer a variety of powerful modules for each ITIL® process step. A range of tailor-made services and also workshops tailored to ITIL® ensure that ITIL® becomes lived practice in your company.

The IT Infrastructure Library (ITIL)

ITIL Process Steps	Strategy	Development	Launch	Operation	Optimization
PITSS.CON Module Services	▶ Application analysis for Forms, Reports and databases ▶ Architecture and technology consulting for Oracle technologies ▶ Technology differentiation for JAVA, .Net, ADF, APEX and Forms ▶ Conception of SOA architecture for Oracle Forms applications ▶ Internationalization by means of client concept and multilingualism ▶ Cost calculation for Oracle Forms modernizations ▶ Source code quality analysis for Forms and Reports according to Halstead and McCabe ▶ Security concept	▶ Code reduction: dead code and redundant code ▶ Development for Oracle Forms and Reports, ADF, APEX ▶ Documentation and change management ▶ Error analysis, error management (compare Forms) ▶ Implementation and checking of coding standards, security review ▶ Acceleration of development processes, agile development	▶ Installation of Oracle databases and operating systems ▶ Installation services for Oracle products: WLS, OAS, Developer Suite, RUEI, ATS, etc. ▶ Performance monitoring and Forms tuning ▶ System integration, interfaces, SOA, BEPL, ESB ▶ Optional test support with Oracle RUEI and ATS tools ▶ Optimization of deployment processes	▶ Hardware and operating system configuration, hardware sizing ▶ Installation services for Oracle products: WLS, OAS, Developer Suite, RUEI, ATS, etc. ▶ Performance optimization ▶ Release version management ▶ Application and infrastructure support ▶ Error analysis, error management, quality management	▶ Source code analysis and optimization ▶ Revision and analysis of redundant business logic ▶ Implementation of SOA, ESB, BEPL ▶ Development for Oracle Forms and Reports, ADF, APEX ▶ Integration of SOA, web services, BPEL ▶ Introduction of agile methods for change management ▶ Release version management
PITSS Services Offers	▶ Project Management ▶ Workshops, POC, ROI	▶ Application support ▶ Training	▶ Development ▶ Consulting	▶ Architecture ▶ Installation	

PITSS Profile & Customer Statements

PITSS is the leading provider of software & services for modernizing and effectively managing Oracle applications. The PITSS Group was established in 1999 and has gained international recognition with over 1,000 customers and a multitude of successful Oracle projects. PITSS is an Oracle Gold partner and, as a member of the Oracle Modernization Alliance (OMA), is the only Oracle Forms Migration partner for automated migrations. With sites in Stuttgart (HQ), Wolfratshausen near Munich, Bielefeld (Germany), Milton Keynes (UK) and Troy (USA) as well as certified international partners, the company successfully provides support for IT projects of medium sized companies, large enterprises and public contractors across the globe.



PITSS.CON

The high performance software solution PITSS.CON has been convincing for years in all areas and phases of Oracle Forms projects through a high level of automation, speed, efficiency and reliability. The repository-based PITSS.CON tool provides support from analysis with exact project estimation, code revision and processing of business logic, right up to documentation and quality assurance. The savings are 30 % on average and often reach 90 %. With the upgrade of older Forms versions on WebLogic Server 11g as well as technologically driven migrations, PITSS.CON meets the requirements for Oracle Forms & Reports, SOA, ADF, APEX to any GUI.

PITSS Services

PITSS Services successfully supports its customers in Oracle IT projects with a customised Full Service Offer in the form of consulting, training, development, administration & support. The focus is on Oracle themes, Oracle databases and Fusion Middleware such as: Forms & Reports, SOA, WebLogic Server, Single Sign-on (SSO), Java, ADF, APEX, upgrade, migration, reengineering and web development. PITSS Services demonstrates the best expertise, well-founded knowledge of applications, high project experience and a strong and targeted project management. PITSS Services advisors are Oracle (OCP) certified.

ORACLE Products & Services

As an Oracle Gold Partner, PITSS is the contact and supplier for the whole Oracle licence product range: From licence consulting to licence purchasing and licence management. So, together with the customer, infrastructures that meet the demands and requirements are developed and implemented accurately.

www.pitss.com

» The migration with PITSS.CON was the quickest, cheapest and best solution for us to move our well proven Forms application to new hardware. The complete application migration was finished within three days. «

Valentin Todorov, System Analyst and Project Manager at Austro Control

» We looked at a number of migration options and we chose PITSS.CON due to its integrated package – including Workshop. We also intend to use PITSS.CON for the development of our Forms applications and for version control. «

Gerhard Zeilinger, Project Manager, Stora Enso Timber AG

» We looked at PITSS.CON straight away as a solution for the rapid, inexpensive and reliable migration of our Gaïa application in Oracle Forms to a web version. We then realized that we can profit from a significant number of additional functions, such as the maintenance module for all our future improvements and the multilingual module for the dynamic translation of our Gaïa application into target languages. «

Patrice Cand, Architecture and Software Integration Manager,
Information Technology Solutions Department at SOFRECOM's software engineering facility

» PITSS has convinced us with its integrated concept for optimum life cycle management of our complex Forms application. We feel that PITSS.CON is the only solution that meets our requirements for completeness checking, migration and further development of the Forms application. «

Helmut Glas, EDP & Support Manager,
Ärztliche Verrechnungsstelle Büdingen

» With PITSS.CON we are going to save more than 30 man-years of work for the upgrade to the latest Forms version. In addition to that we will have annual savings of hundreds of man days in development processes. So working together with PITSS is truly the best choice for us. «

Moshe Ben Habib, Manager Database Administration
at MOL IT America

» Thanks to the automation of the migration using PITSS.CON, we were considerably faster in converting to Oracle Web Forms which enabled us to focus on the more critical problems in this project. «

Martin Hackmann, Director Project and Architecture Management,
Inverso GmbH, a VKB Group company

» Compared to other tools, PITSS.CON offers a collection of functions available nowhere else that are specially geared towards Forms applications. The long-term benefits that this brought with it were the crucial factor in our decision to choose PITSS.CON. «

Hans-Jürgen Köster, ISAP Systems Consultant, Ministry of Economics,
Labour and Tourism for the State of Mecklenburg-Western Pomerania

PITSS.CON in over 40 countries worldwide

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