

# WHITEPAPER

## AST CORPORATION



# AST Cloud Connect

A Complete Solution Framework for Cloud Applications  
Integration

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# 1 ABSTRACT

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Cloud can be a revolutionary idea in the current market for software applications. More and more enterprises are choosing to utilize Cloud applications (SaaS) and infrastructure (IaaS)<sup>1</sup>. Oracle's new and innovative product releases for Fusion Applications Cloud (Cloud ERP) and Planning and Budgeting Cloud Service (PBCS) are making SaaS solutions for ERP and Planning accessible to an entire new market, with easy migration and quick-start capabilities. However, these solutions also introduce high levels of complexity for integrating with in-house applications and other cloud applications.

Some of the integration challenges are:

- Limited database availability in the SaaS model;
- Choosing the right integration model for a given use case;
- Adding validation long before data is loaded into the target system;
- Running reports on loaded data; and
- Extracting data from cloud systems.

While creating a custom integration solution might address all of these issues, it is extremely time-consuming and requires multiple iterations of development to reach a mature solution. In addition, constant maintenance and development effort is required for each new integration. An alternate approach is to select a product that is mature, proven to work out-of-the-box and which provides a simple mechanism for new integration.

## 2 INTRODUCTION

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AST Cloud Connect, based on Oracle SOA Suite 12c, is a fully-configurable integration accelerator providing pre-built interfaces. It comes with all the plumbing needed to integrate Oracle Cloud ERP and PBCS with both legacy (on-premises) and Cloud SaaS solutions.

AST Cloud Connect is a proven and production-tested solution that reduces Oracle Cloud ERP integration time from weeks to just days. Simply pick from more than 50 pre-built interfaces and watch your systems exchange data in real-time with zero or minimal development effort.

### 3 INTEGRATION CHALLENGES

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The adoption of enterprise resource planning (ERP) applications running in the public cloud has increased significantly in recent years. Integration is an area frequently overlooked as either unneeded or as being very simple. Yet integration is almost always needed, and is usually complex, requiring considerable expertise. The challenges occur not only with the technology, but with the way the systems talk to each other and work (or don't work) with common data.

Some frequent challenges are listed here:

1. Limited database availability – The Cloud ERP database is no longer local. This is a benefit for ongoing maintenance, but can be problematic when trying to extract data.
2. Multiple approaches for integration – Choosing the wrong integration solution for Cloud ERP can quickly derail or extend integration efforts. Options such as ADF Services (commonly referred to as Web Services), ADF Desktop Integration (ADFdi), File Based Data Import (FBDI) and Reporting Tools each offer unique benefits and drawbacks. Understanding the correct approach is key to success.
3. Degradation of data quality – Loading data without strong validation rules can quickly degrade data quality. This rapidly leads to duplicate and unwanted data. This can be avoided by validating data well before it's loaded into the system.
4. Lack of visibility into data load success or failure – End user reports must be configured to automatically deliver vital information about the status of each data load.

All the limitations mentioned here can be avoided by choosing a solution that was built to specifically address these pain points.

### 4 CUSTOM SOLUTION RISKS

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One approach that may seem logical at first is to create a custom integration solution. Custom solutions can provide much flexibility, but are often fraught with issues, especially when a team lacks expert guidance.

Some of the risks involved in developing a custom solution are listed here:

1. Time – One of the major limitations of creating a custom solution is the time it takes to build multiple iterations, implement and test the solution. It can be time-consuming to develop a mature end product.
2. Complexity – While a custom solution will certainly be tested for known use cases, new scenarios will always crop up and cause the solution to fail. Many solutions will be over-engineered to target generic use-cases, causing organizations to pay for more features than are truly required.
3. Maintenance – The ongoing maintenance and enhancement costs for custom integration solutions require a dedicated team to deal with future issues. This may not be a feasible strategy for organizations without a dedicated staff.

## 5 AST CLOUD CONNECT

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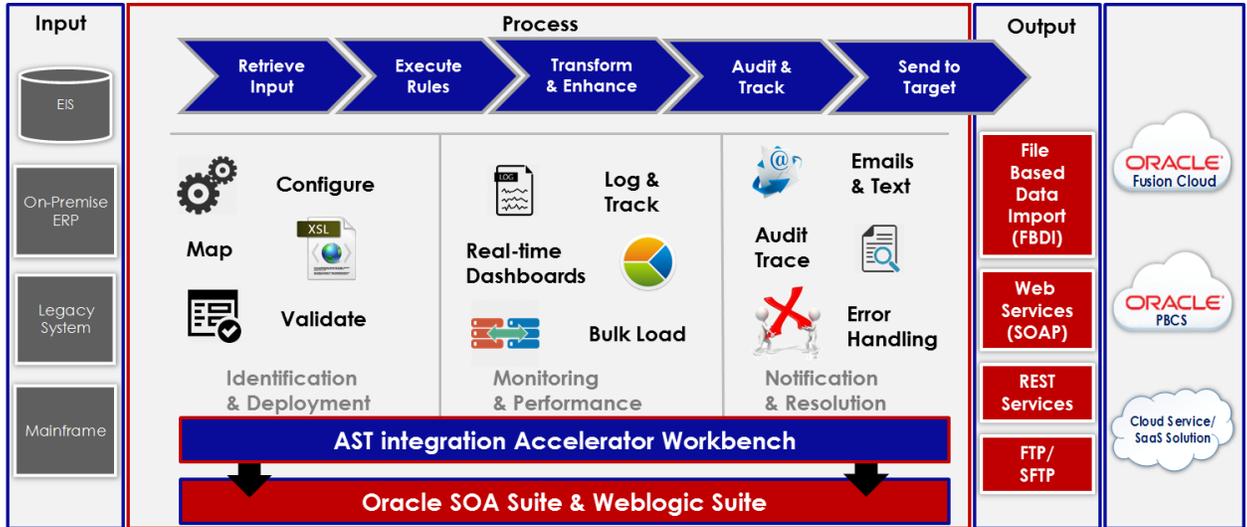
AST Cloud Connect is based on the industry-leading Oracle SOA Suite and Oracle WebLogic Server platform. It utilizes open standards for Web Services and Business Process Execution Language 2.0 (BPEL) standards for orchestration of service interfaces. This makes the solution interoperable across platforms without the need to re-engineer the design. Moreover, it provides a standards-based framework with features such as redundancy, automatic failure detection, caching and throttling, validation and notifications.

Legacy systems or COTS systems which do not support web service standard can be service-enabled using AST Cloud Connect connectors. Connectors for file and database/SQL integration are available out-of-the-box and integrate with most legacy systems with minimal effort.

Some of the rich features of AST Cloud Connect are listed here:

1. More than 50 pre-built integrations already exist across Cloud HCM, Financials, SCM, Procurement, Projects, and PBCS.
2. More than 40 data flows have been pre-defined and are fully configurable.
3. Adoption and system mapping are quick and easy with drag-and-drop data mapping definition.
4. Failed or stalled transactions are handled automatically with Transaction Retry Rules and integrated handling of business exceptions.

5. The solution includes runtime monitoring, detailed notifications, system status and reports.
6. In addition to reducing deployment time and cost, a reduction in maintenance cost is also achieved.

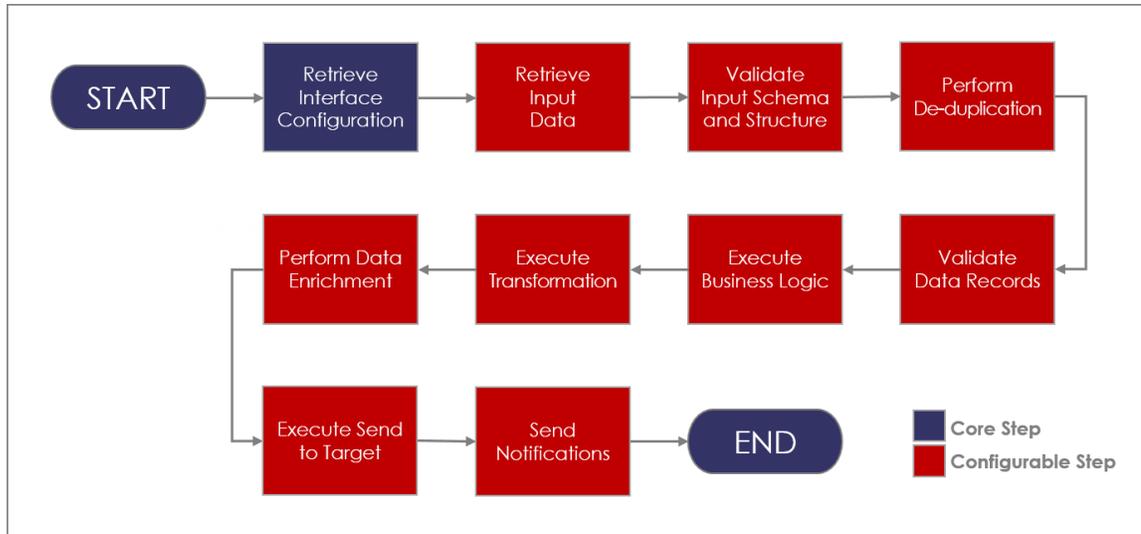


AST Cloud Connect addresses all the pain points listed above and provides distinct advantages for your Cloud implementation projects.

The solution is mature and was created based on a framework that is easy to expand and reduces development time to a minimum. In most basic scenarios, the only development required is to update configuration.

## 6 AST CLOUD CONNECT WORKFLOW

AST Cloud Connect provides a fully configurable workflow model suitable for any interface processing needs, without the need for any code changes. The workflow provides rich configuration attributes, allowing control over not only which steps will be executed but also how each step will behave.



AST Cloud Connect features a fully-configurable workflow process that enables easy building of integration interfaces.

The features of the configurable workflow are listed here:

1. Data input – Input data can be retrieved from a variety of sources including flat file, FTP, WS-SOAP, WS-REST, and database. In-built connectors make it easy to configure AST Cloud Connect without custom code. Additional connectors can be built to support new input mechanisms.
2. Schema validation – With a multi-vendor system it is always possible that systems may not fully adhere to defined formats and contracts. AST Cloud Connect validates configured data format and structure, thereby reducing downstream processing errors.
3. Configurable workflow – Interface processing needs vary widely and are dependent on source and target systems, transaction type and many other factors. AST Cloud Connect allows for multiple configurations and steps, with over 40 unique data flows pre-built to suit various interface requirements.
4. De-duplication – If the input data file/stream contains duplicate rows of data, AST Cloud Connect can intelligently compare and weed out duplicates, thus preventing data corruption. The criteria for de-duplication itself is defined using configuration and can be changed at runtime to reflect changes in source or target systems.

5. Data validation – Complex integration interfaces must often deal with inconsistent and invalid data scenarios. AST Cloud Connect provides extensive and fully-configurable, out-of-the-box validation mechanisms. In cases where custom/proprietary validation logic needs to be implemented, a fully-pluggable extension architecture allows customizations to be defined without disrupting other processes and integrations.
6. Business logic – Allows custom business processing logic to be defined as needed. The pluggable extension architecture allows any arbitrary logic to be encoded and executed on demand.
7. Transformation – Data mapping and transformation can be defined using industry-leading open standards of XSLT and XQuery. These are stored as metadata, can be updated at runtime, and immediately take effect, ensuring rapid deployment and testing. The creation of the mapping itself is done using the JDeveloper IDE using a drag-and-drop interface.
8. Data enrichment – In scenarios where source systems are unable to supply requisite data or correct codes and lookups, these can be configured to be automatically enriched within AST Cloud Connect.
9. Target interface – AST Cloud Connect comes with over 50 pre-built interfaces for Oracle Cloud Financials, Projects, Procurement, HCM, SCM and Planning and Budgeting Cloud Service (Hyperion). These can be deployed and used with zero or minimal configuration changes, and are quickly ready for testing and validation.
10. Notifications – AST Cloud Connect supports configurable notifications that can be tailored to specific user and department needs on a per-interface level. The notification text can be defined as a template and easily reused.

## 7 SUMMARY

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Adopting cloud computing solutions can reap many advantages, such as agility and operational cost savings, but may increase the cost and complexity of the integration requirements. With AST Cloud Connect, the integration requirements of Oracle Fusion Cloud and PBCS can easily be met with a configuration-based accelerator that creates an extensible integration framework and considerably reduces the implementation time.

## 8 REFERENCES

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[1] RightScale, Cloud Computing Trends: 2016 State of the Cloud Survey <http://www.rightscale.com/blog/cloud-industry-insights/cloud-computing-trends-2016-state-cloud-survey>

## About the Authors:



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