North Carolina: Transforming Procurement in the Cloud

Enterprise IT Management Initiatives

North Carolina

Department of Administration, Division of Purchase & Contract

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EXECUTIVE SUMMARY

The North Carolina Department of Administration, Division of Purchase and Contract (P&C) has run NC eProcurement, an enterprise-wide internet-based purchasing system that offers purchase order processing for the state, for over 20 years. NC eProcurement is a critical tool heavily used by over 50 state agencies and facilities, all 58 community colleges, many K-12 school districts, several local governments, and over 39,000 vendors. It processed more than 6 million purchase orders and $59 billion in spend from its inception in 2001 through May 2022.

In 2019, though, the on-premise Ariba Buyer 9r1 application used by NC eProcurement was nearing the end of support. The state also faced a need to establish a statewide repository of contracts and provide robust electronic sourcing processes for agencies and vendors. These factors, coupled with the need to maintain the on-premise technical infrastructure and the complexity of implementing product upgrades in an on-premise solution, led the state to move to a software as a service (SaaS) solution.

The N.C. Department of Administration launched a project to upgrade the on-premise Ariba Buyer 9r1 application to the cloud-based SAP Ariba. Initiated in July 2020, the NC eProcurement transformation has moved four applications to the cloud. The NC eProcurement system now provides a modernized interface, a quoting solution, vendor order confirmation and shipping information, improved mobile accessibility, and routine updates with new features. The vendor experience has also improved with this upgrade. Vendors can take advantage of electronic tools to respond to formal bid solicitations and informal quote requests or to update buyers on order status.

The cloud-based NC eProcurement system brings the following benefits for the state:

- More aggregate data to understand state buying patterns
- An electronic quoting feature to request pricing from multiple vendors
- Easier system updates with zero downtime for deployment
- Decreased time spent on the purchasing process
- Sourcing tool for electronic formal solicitations
- Improved contract management functionality
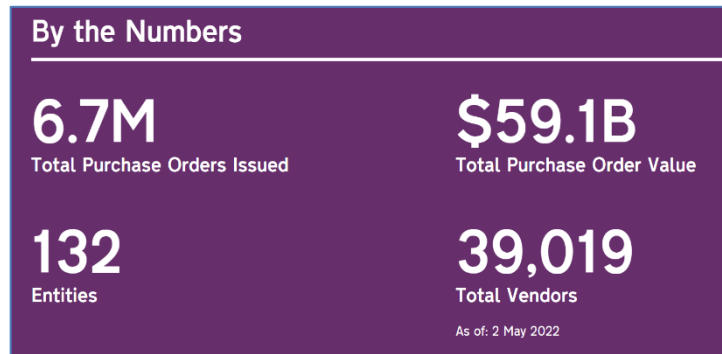- Faster purchase order processing and approval

The new, cloud-based, NC eProcurement system is an example of statewide procurement at its best. This true enterprise system captures the spending of state agencies, community colleges and K-12 school districts, allowing the state the best opportunity to aggregate demand to leverage the state's buying power and offer the state's buyers operational efficiencies and cost savings. The state will continue to refine NC eProcurement services and respond to changing business needs using the foundation of leading platforms enabled in this initiative.
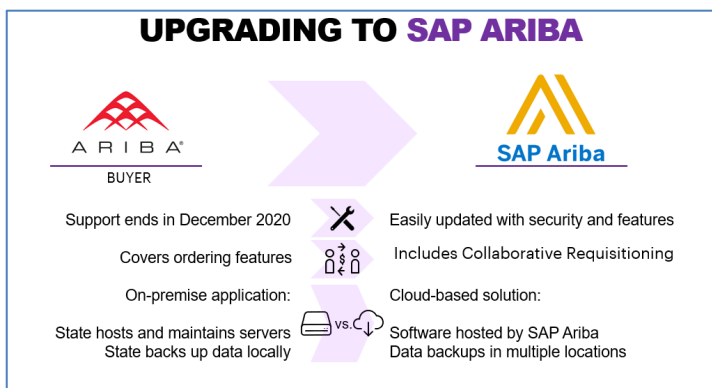
IDEA

The North Carolina Department of Administration, Division of Purchase and Contract (P&C) has run NC eProcurement, an enterprise-wide internet-based purchasing system that offers purchase order processing for the state, for over 20 years. The system offers administrative functions, such as electronic approval flows and online catalogs, which result in operational efficiencies for both buyers and vendors, and the data created provides valuable spending

insights that enable P&C to strategically source and negotiate improved contracts. The project is self-funded through a 1.75% fee paid by vendors who receive purchase orders for goods through the system.

Over 50 state agencies and facilities, all 58 community colleges, many K-12 school districts, several local governments, and over 39,000 vendors rely on NC eProcurement as the state's procurement tool. More than 6 million purchase orders and $59 billion in spend as of May 2022 were processed since its inception in 2001.

By the Numbers

6.7M
Total Purchase Orders Issued

$59.1B
Total Purchase Order Value

132
Entities

39,019
Total Vendors
As of: 2 May 2022

In 2019, NC eProcurement was using the on-premise Ariba Buyer 9r1 application that was nearing the end of support. In addition, the state faced a need to establish a statewide repository of contracts and provide robust electronic sourcing processes for agencies and vendors. These factors, coupled with maintaining the on-premise technical infrastructure as well as the complexity of implementing product upgrades in an on-premise solution, led the state to move to a SaaS solution.

UPGRADING TO SAP ARIBA

ARIBA® BUYER

SAP Ariba

Support ends in December 2020 — Easily updated with security and features

Covers ordering features — Includes Collaborative Requisitioning

On-premise application: — Cloud-based solution:

State hosts and maintains servers — Software hosted by SAP Ariba
State backs up data locally — Data backups in multiple locations

The Department of Administration established a project to upgrade the on-premise Ariba Buyer 9r1 application to the cloud-based SAP Ariba. This project included the upgrade of Ariba Buying (July 2020) and the implementation of two new modules – Ariba Contracts (February 2020) and Ariba Sourcing (2021). The state procurement processes that would be impacted were requisition to order, sourcing, and contract management. New functionality would be introduced for Buying including collaborative requisitioning, improved catalog content, and Ariba Network enablement for vendors.

A new approach to retaining data was also planned as part of the upgrade. The planned approach was to combine historical procurement data with data from the upgraded NC eProcurement to establish a procurement data repository. This approach would also meet the state's data retention guidelines without needing to maintain the legacy system.

Additionally, Ariba Buyer 9r1 utilized two on-premise middleware applications to facilitate the integration of transactional data between SAP Ariba and the ERP systems used by state entities. To address aging operating systems, databases and hardware, the state migrated both applications to cloud infrastructure.

The NC eProcurement 2020 Upgrade Project began in 2019, and the department's move to the cloud for NC eProcurement was underway.

IMPLEMENTATION

The first part of the transformation was the upgrade of Ariba Buying. The SAP Ariba modules were implemented in three different phases. Buying was scheduled as a single go-live because it was upgrading an existing production system used by over 130 entities and nearly 9,000 users. Contracts and Sourcing were new modules for the state of North Carolina, so a different approach was used for these tools to roll out the new functionality to several agencies at a time.
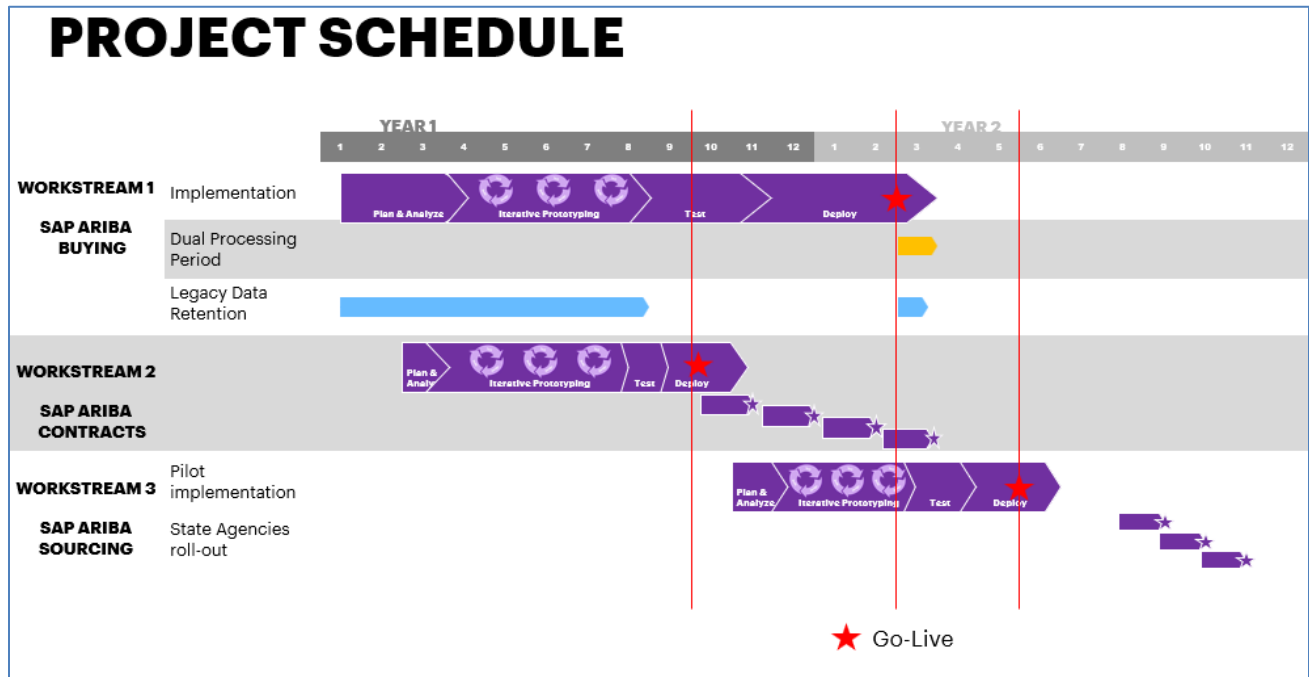
During the Plan and Analyze phase, the team reviewed the current state and held planning workshops to build a requirements traceability matrix. A fit/gap analysis was completed to document processes/policies where needs were not met by configuration. The team used an iterative prototyping approach during the design and configure phase, with three iterations for design, build and test activities.

More than 30 design planning sessions were held to review standard features and gather feedback from key stakeholders, including P&C leadership, Statewide IT Procurement Office (SITP) leadership, and entity representatives from the state's purchasing community. One of the key areas of complexity of the project was the integration with over 100 older legacy ERP systems. With a principle of minimizing impact on integrating systems, over 120 key design decisions were documented and approved by stakeholders in the months leading up to implementation to determine how the customized Ariba Buyer 9r1 functionality would work with Ariba Buying.

The system was then configured, and core functionality, tasks, templates and processes were assessed and modified as part of a series of iterative prototype workshops. Product testing, integration testing and user acceptance testing (UAT) were completed during the test phase in advance of deployment.

As part of the deployment, the team virtually trained nearly 6,000 users across all three modules. More than 50 job aids to create 24 learning paths were developed for both buyers and vendors

to access at their convenience. Master data was gathered from primary resources at each agency and loaded into the production environment system ahead of go-live.

Buying was coordinated as a one-time change over across the state at the beginning of the fiscal year. This helped reduce the impact to users, which was important as COVID-19 had both increased supply demands and changed how users were working. Some entities were fully remote while others were splitting time. All users across the state were readjusting during this time.

For the Contracts and Sourcing modules, the implementation was deployed in two waves. The first was a pilot, which included P&C, followed by a series of multi-week sprints to enable remaining state agencies. During each sprint, users were provided virtual hands-on training followed by one-on-one support for the remaining two weeks post go-live. Support for the Contracts and Sourcing modules transitioned from the Training team to the NC eProcurement Customer Service Desk after sprint roll-outs were complete.

For the procurement data repository, the Department of Administration worked with the North Carolina Government Data Analytics Center (GDAC) to create the eReporting tool. The data from Ariba Buyer 9r1 was transferred to eReporting, where it can be accessed without needing to maintain the legacy system. Data from the upgraded NC eProcurement is routinely added to facilitate consolidated reporting from GDAC for legacy and ongoing procurement data.

The two on-premise middleware applications that facilitated the integration of transactional data between SAP Ariba and the ERP systems were migrated to the cloud as well, after the completion of the NC eProcurement 2020 Upgrade Project. The on-premise MuleSoft middleware supported transactional and batch integration between SAP Ariba and all integration touchpoints, including iHub and the NCAS financial system used by state agenices. This was re-platformed to MuleSoft's iPaaS (integration Platform as a Service) offering, CloubHub in 2021. The custom iHub middleware application, used to communicate with the Community College and K-12 school system financial systems, was migrated in 2022 to an Amazon Web Services (AWS) environment managed by the North Carolina Department of Information Technology.

IMPACT

Today, the NC eProcurement transformation is ongoing with four of the six applications moved to the cloud. The NC eProcurement system now provides a modernized interface, a quoting solution, vendor order confirmation and shipping information, improved mobile accessibility, and routine updates with new features. The vendor experience has also benefited from this upgrade. Vendors can take advantage of electronic tools to respond to formal bid

NC ePROCUREMENT APPLICATIONS

solicitations and informal quote requests or to update a buyer on the status of an order.

Sourcing now connects buyers and vendors electronically for formal solicitations. Buyers from state agencies can create public postings with required forms and fields. The vendors' electronic responses can evaluated and retained in the system.

Contracts is a comprehensive tool that allows users to upload and track contracts at both the state and agency levels. The benefits include expiration reminders, a repository for all contract-related items, online legal reviews, electronic approval flows, and the ability to run reports. Contracts was implemented to support the creation, execution, and management of contractual agreements negotiated by state agencies.

The new Sourcing tool allows us to keep all the documents pertaining to a solicitation in one place – even the vendor responses and is entirely electronic – no more paper!

– Agency User

The implementation of cloud-based sourcing and contracts solutions provided a unified approach to formal solicitation and contract retention. These solutions, in conjunction with the enhanced tools for purchase orders, allow the buyer to have a more streamlined process. The modules give P&C the ability to provide process guidance and appropriate templates and documents through the system.

Shortly after the conclusion of the upgrade, North Carolina Administrative Code rule changes were approved by the state. NC eProcurement was able to roll out these changes in just a few
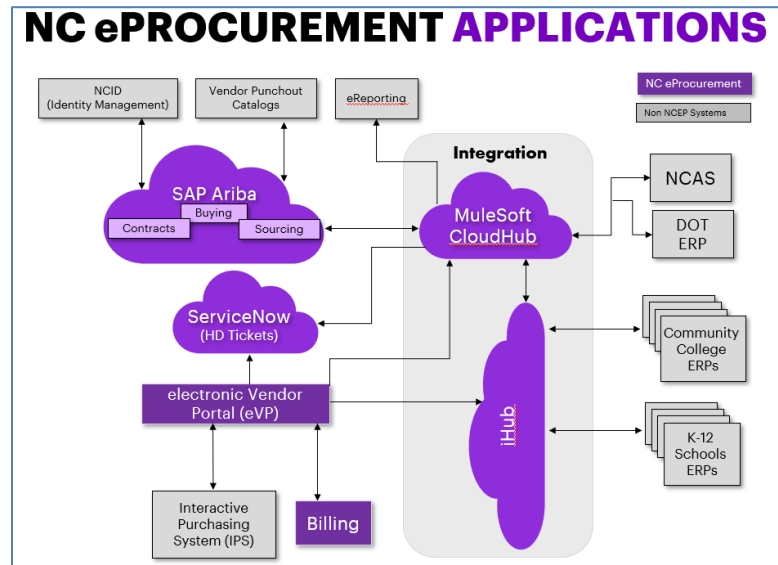
NC ePROCUREMENT
BENEFITS TO THE STATE

More aggregate data available to **understand state buying patterns**

Electronic quoting feature to request pricing from multiple vendors

Easier system updates with zero downtime for deployment

Decreased time spent on the purchasing process

Sourcing tool for **electronic formal solicitations**

Improved **contract management** functionality

Increased speed of PO processing and approval

weeks. The system allowed configuration changes that were coordinated to become available immediately, rather than relying on buyers to learn about the updates and adjust their processes. Going forward, template and configuration changes can easily be made in conjunction with buiness needs.

The GDAC eReporting tool allows buyers access to legacy and ongoing procurement data. In the future, eReporting can be used by the state to facilitate consolidated procurement reporting from additional data sources.

In addition to these new modules and tools, CloudHub now connects SAP Ariba with the electronic Vendor Portal (eVP), the North Carolina Accounting System (NCAS), and other essential applications. The community colleges and K-12 schools connect through the new iHub, which is also cloud-based. These new applications provide numerous enhancements to not only better support the size and volume of transactional data but allow for improved deployments and simplified maintenance of application components.

NC eProcurement continues to provide operations support for the system, which includes all application development, production support, technical infrastructure support, customer service desk capabilities, system training, and billing and collections services. Plans to move the last two applications – the electronic Vendor Portal (eVP) and Billing – to the cloud are underway. Other states could also realize the benefit from the State of North Carolina's success along this journey.

Overall, the new, cloud-based, NC eProcurement system, with its additional modules and enhancements, is an example of statewide procurement at its best. It is a true enterprise system that captures spending of state agencies, community colleges and K-12 school districts, allowing the state the best opportunity for aggregating demand to leverage the state's buying power and offers the state's buyers operational efficiencies and cost savings. The state will continue to refine NC eProcurement services and respond to changing business needs using the foundation of leading platforms enabled in this initiative.