# Lockheed Martin Aeronautics and NextLabs: Securing the Collaborative Supply Chain

## LOCKHEED MARTIN AERONAUTICS' STORY

Lockheed Martin Aeronautics products play an important role in the national security of the US and more than 70 other countries. Besides producing the world's finest fixed-wing fighter aircraft, the company is focused on sustainment of its products in the field—ensuring the operational readiness of its aircraft so that customers can stay mission-ready.

The global nature of Lockheed's sustainment business requires collaboration and information-sharing on an unprecedented scale. Whether that information is needed by employees, customers, or supply-chain partners, they should be able to access only the data needed to complete their activities, and no more. For example, international customers maintaining their aircraft need to be able to manage inventory, request new parts, and ship parts out of the warehouse to where needed, but they should not be able to access Lockheed's entire SAP data set. Lockheed needed a way to give external users the information the users needed to keep their aircraft operational—without jeopardizing the national security concerns of the United States and Lockheed's international customers.

### 100 YEARS

Lockheed's aeronautics business has delivered landmark aircraft for more than 100 years

### 70 COUNTRIES

Customers in more than 70 countries

### 18 BILLION

$18 billion in 2016 net sales

### 25,000

More than 25,000 employees worldwide

### 10

10 locations across the US

## THE CHALLENGE

Lockheed partners with countries around the globe to manufacture and sustain its products. The company needs its partners to be able to complete their activities, while still ensuring compliance with US disclosure policies and the security of its entire SAP data set.

In Lockheed's case, the problem of granting "need to know" access to external partners and customers has national security implications: even the number of aircraft purchased by an international customer is considered highly classified information. The challenge: how could it enable partners to perform activities within the Lockheed SAP system, but make sure those partners were able to access only the data they needed to complete their activities? Lockheed tried several approaches, depending on the project:

- **Assigning an internal "buddy" to external people.** When international customers needed information from Lockheed's SAP system, an assigned liaison, a Lockheed US employee, would retrieve the information for them. Suppose the external user wanted to know, "How many of Part 123 do we have in inventory?" The internal buddy, who had appropriate access to the needed parts of the system, would look up that information and get it to the requester.

- **Hiring US employees to work side-by-side with international customers.** If a country purchased an F-35, for example, Lockheed would position a US employee in the country to liaise with external users and get the information and parts they required.

- **Developing custom SAP ABAP code** to set appropriate access privileges for external users in Lockheed's SAP system. This is both expensive and time-consuming—and as changes require modification, cost and time overruns often occur.

## CANADA AND THE C-130J PROGRAM

The C-130J Super Hercules made by Lockheed Martin Aeronautics is the world's most advanced tactical airlifter. As part of its growing sustainment business, Lockheed won a performance-based logistics (PBL) contract with the Canadian ministry of defense, to keep Canada's C-130J aircraft operational and in the field.

Performance-based logistics is a product-support strategy based on customer-oriented outcomes, where the contractor commits to meeting a specific level of performance or outcome for a price. Payment is based on how well the contractor meets those performance-based requirements. The C-130J PBL contract with Canada required Lockheed to provide SAP system access for Canadian nationals. The Canadians needed to perform activities and view data themselves—without a liaison or "middle person"—in order to manage the Lockheed parts warehouse in Trenton, NJ. Successfully meeting the performance terms of the contract meant that Lockheed needed to give Canadians access to specific parts of the system as quickly as possible.

## CUSTOM DEVELOPMENT

Lockheed implemented a solution for the C-130J project by developing custom ABAP code that gave verified users access to the transactions they needed. It worked, but it was expensive (Lockheed spent more than $1M on the project) and time-consuming.

As the company viewed future projects, it saw an expanding need to accommodate international collaboration and non-citizen data access, but it wanted to find a more affordable way to enable foreign nationals' SAP access. Lockheed was looking for a commercial off the shelf (COTS) solution that would provide fine-grained, attribute-level access control.

## THE SOLUTION

Lockheed identified NextLabs as a prime candidate to meet its future needs. The two companies established a pilot program in 2015, a proof of concept (POC) that would map a subset of current C-130J non-citizen production access controls to corresponding authorization objects and attributes.

The pilot itself was never intended to be put into production—they had a solution that worked (custom ABAP), although the process of getting there had been costly and somewhat painful. But if the POC worked, Lockheed could feel confident relying on NextLabs for future projects.

The Canada C-130J project required access to 80 different transactions overall. The NextLabs pilot worked on a subset of 20 transactions chosen by Lockheed—for example, transactions that manage inventory, shipping something from the warehouse to somewhere else.

NextLabs Entitlement Manager for SAP provided the solution. For specific Canadian warehouse locations, it limited access to information in SAP ERP Core Component (ECC) to only employees working in those locations. The solution:

- Allowed Lockheed to create, manage, and enforce policies
- Controlled access based on defined user attributes such as citizenship, location, and geography
- Integrated with existing user classification structures
- Provided comprehensive policy enforcement

## RESULTS

Because of the success of the pilot, Lockheed committed to using NextLabs for a full-fledged production project: working with BAE Systems and Northrop Grumman to double the output of F-35 Lightning II fighter aircraft.

BAE Systems and Northrop Grumman are responsible for some of the parts that are put into the F-35. Production output is slowed when these non-Lockheed partners need a Lockheed liaison to retrieve information from SAP for them. To double the output of F-35 aircraft, BAE and Northrop Grumman employees would need their own access to the system.

Lockheed again used NextLabs Entitlement Manager for SAP. The project objective was to allow partners access to SAP so they could perform side-by-side activities with their internal Lockheed peers—but restrict visibility to only the materials and associated information they owned and managed on Lockheed's behalf. The project scope was 45 transaction codes (t-codes) that restricted certain authorization objects, as well as attributes for each of these.

Currently, the 45 t-codes have been successfully restricted at the material level. Lockheed has begun to finalize the requirements for additional, more-detailed restrictions, which include omitting buttons and graying fields for non-entry. These will be the focus of a future collaboration with NextLabs.

## SYSTEM BENEFITS

Lockheed Martin Aeronautics was looking for a cost-effective, easy-to-manage, repeatable solution to ensure appropriate authorizations for ongoing global partners. With its deployment of NextLabs Entitlement Manager for SAP, Lockheed Martin Aeronautics is enjoying the following features and benefits:

| FEATURES | BENEFITS |
|---|---|
| Attribute-Based Access Control | ■ Prevent unauthorized access to sensitive SAP data<br>■ Enforce finer-grained, attribute-based controls |
| Dynamic Authorization | ■ Evaluate user, resource, and environment attributes against centrally managed rules and policies at runtime<br>■ Determine access based on the latest user status, current set of data classifications and relationships, and information about the current environment<br>■ Leverage SAP roles and other SAP and non-SAP attributes for dynamic authorization decisions at the time of request |
| Data Classification | ■ Leverage SAP's classifications and information about the user<br>■ Easily label sensitive data<br>■ Protect data inside and outside of SAP |
| Centralized Policy Management | ■ Enforce proper authorization at runtime utilizing all of the relevant information available—sourced from either SAP or external sources<br>■ Make policy changes easily, without changing the application<br>■ Centralized control of global policy sets |

## ABOUT NEXTLABS

NextLabs®, Inc. provides data-centric security software to protect business critical data and applications. Our patented dynamic authorization technology and industry leading attribute-based policy platform helps enterprises identify and protect sensitive data, monitor and control access to the data, and prevent regulatory violations – whether in the cloud or on premises. The software automates enforcement of security controls and compliance policies to enable secure information sharing across the extended enterprise. NextLabs has some of the largest global enterprises as customers and has strategic relationships with industry leaders such as SAP, Siemens, Microsoft, and IBM.  For more information on NextLabs, please visit http://www.nextlabs.com.

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