

# E-CONTRACTING AT NASA'S JET PROPULSION LABORATORY

## EXECUTIVE SUMMARY

### Vision

- Create a paperless system where procurement packages remain electronic from requisition to close-out

### Scope

- Used by 140 Acquisition personnel
- Being rolled out across JPL

### The Problem

- Paper-intensive contracting process

### The Solution

- OneSpan Sign deployed behind the firewall

### The Benefits

- Time savings for internal signature approvals: 2-6 weeks
- Initial savings of \$30,000 in just one of its departmental organizations
- Workflow efficiency
- Better file management, data access and back-ups
- Improved productivity - now able to handle a greater volume of contracts

Based in Pasadena, California, the Jet Propulsion Laboratory (JPL) is a federally funded R&D facility staffed and managed by the California Institute of Technology for NASA. JPL employs 5,000 engineers, scientists, and support personnel to conduct robotic space exploration and research for NASA.

To keep all of NASA's space missions moving forward, the JPL Acquisitions Division processes thousands of contracts annually with its 10,000 vendors. Those contracts can range from hundreds of millions of dollars to small purchase orders of \$1,000 or less. However, the existing contracting environment was complex and paper-based, where each contract could have thousands of pieces of paper associated with it. JPL had a vision to create a paperless system where procurement packages would remain electronic from requisition to close-out.

In under two years, with very little budget and by partnering with their internal IT department, the JPL team designed an Interactive Acquisition Network (IAN). With this system, JPL was able to digitize the entire contracting process, create contracts electronically, route them for review and e-signature, and automate storage and close-out. OneSpan Sign is a key part of this paperless e-contracting initiative.

While Acquisitions was the first division to go completely paperless, the laboratory took an enterprise approach and standardized on a single e-signature solution for all of its future needs. Like other capabilities, such as centralized accounting or HR services, e-signatures will be implemented as a shared service that can be easily accessed by any division. This offers a uniform solution across JPL, saves on developer time, accelerates roll-out of e-signatures, and creates a consistent user experience.

## The Challenge

In addition to reducing paper consumption, costs and time, the redesign of JPL's contracting system was driven by factors such as:

- The need to support an increasingly mobile and remote workforce
- Constraints on office space
- Issues with file sharing and collaboration, paper storage, records management and long-term archiving
- The cost of courier services and postage
- Pressure to accelerate project turnaround time

In addition, the time required to capture signatures and close-out contracts remained significant. For example, staff spent significant amounts of time hand-delivering paper files around the facility for internal sign-off at times that required considerable foot traffic between multiple offices and buildings.

## CASE STUDY | NASA'S JET PROPULSION LABORATORY

Overall, the process of manually capturing signatures could take anywhere from 2-6 weeks. Depending on the contract, signature requirements could range from a single signature through eight different levels of management, plus a legal review. In addition, some contracts must be reviewed by JPL's sponsor agency, NASA. This doesn't take into account the time needed on the contractor's side, which could add up to one month to the overall process length.

### Requirements & Evaluation

In keeping with best practices, JPL brought project team members together early on to determine how to move forward. This included a multi-disciplinary group of 50 stakeholders from JPL's acquisitions, accounts payable, legal, and IT organizations.

IT Security was asked to research e-signature solution providers and the pros/cons of each. The team looked at the state of the industry and came up with a shortlist of solutions. While they did an extensive security evaluation of each, the security aspects of OneSpan Sign set it apart.

One of OneSpan Sign's key differentiators is its robust audit trail, which provide superior protection by capturing

a detailed audit trail. This makes it easy to reproduce exactly what took place during the signing ceremony, and simplifies demonstrating compliance to auditors.

Further, because the audit trail is embedded and travels with the document, JPL has vendor independence – meaning there is no need to go online to the OneSpan Sign servers to verify an e-signed document's authenticity. These features help JPL meet its requirements for security and auditability.

### The Benefits

JPL has since completely transformed its contracting process. Acquisitions has been using e-signatures within the IAN system for less than a year, but based on the first 5,000 e-signed contracts the team has already seen major productivity benefits. With contracts digitized, staff are saving considerable time during the signing process as well as when any document needs to be reworked.

While e-signatures are currently used by 140 Acquisitions personnel at JPL, the technology will be rolled out across the laboratory as a shared service that can be easily accessed by any division — extending the ROI of going digital to all.

KEY EVALUATION CRITERIA	HOW ONESPAN SIGN MEETS THE CRITERIA
Authentication	Works with whatever authentication technology or method is in place, including PKI and other types of digital certificates, CAC/PIV smart cards, email authentication, dynamic KBA, challenge-response questions, SMS passcode, etc.
Integration	<p>From a functional perspective, the solution also had to have the right connectors to other systems used by JPL, one of which is Microsoft SharePoint. Now that JPL is in production, Acquisitions is examining integration of e-signatures more tightly with Microsoft SharePoint using the OneSpan Sign API and the OneSpan Sign for SharePoint connector.</p> <ul style="list-style-type: none"> <li>• With the OneSpan Sign API, developers can fully customize and integrate e-signatures with other systems, applications, and web portals and build a prototype in as little as 10 minutes.</li> <li>• OneSpan Sign for SharePoint is a pre-integrated connector that enables system administrators to add e-signature capabilities to SharePoint in minutes.</li> </ul>
Document and Signature Security	<ul style="list-style-type: none"> <li>• The document is secured with a digital signature</li> <li>• EACH signature is secured with a digital signature</li> <li>• Audit trail includes the date and time of EACH signature</li> <li>• Audit trail is securely embedded in the document and linked to each signature</li> <li>• Documents are vendor independent / independently verifiable</li> </ul>
Regulatory Compliance	<ul style="list-style-type: none"> <li>• Captures the most comprehensive audit trail in the market</li> <li>• Patented ability to capture a full record of the signing process</li> <li>• Reduces the time and cost of demonstrating compliance during audits</li> </ul>
Mobile Access	<ul style="list-style-type: none"> <li>• OneSpan Sign supports signing on any device.</li> </ul>

### ROI Summary

- **Frees staff's time for core responsibilities:** Gathering signature approvals internally used to take 2-6 weeks. Now, that's done in days. Plus, there is no time lost manually searching for P.O.s, invoices, and other contract documentation.
- In just one of its departmental organizations, JPL has been able to save **\$30,000 annually** due to fewer printer and copier leases and less ink, toner, and binder supplies. This does not include the savings from courier and mail costs, which once tabulated will be significant.
- **Less paper, fewer errors:** In the past, contracts would be printed and stored in binders. If there was a mistake with any of the contracts in the binders, contract administrators had to reprint and redo. That manual re-work is now a thing of the past.
- **Automated archiving** of e-signed contracts.
- **Increased mobile access**
- **Better collaboration**

### Conclusion

One of the key lessons here is how, even within a large organization, a single department can be an enabler. As demonstrated by the JPL Acquisitions Division, one workgroup can put a transformative solution in place and enable a gradual expansion of digital operations throughout the entire organization.

OneSpan Sign has had extensive experience with large paperless contracting implementations for both government and businesses of all sizes. This includes the U.S. Joint Chiefs of Staff finance group for acquisition processing, the General Services Administration e-Offer system, the Superior Courts of California, IBM, and many others. E-Signatures enable organizations like these to securely digitize their contract processes, speed up internal processes and encourage innovation.

### Overview of the JPL IT environment

- **Microsoft Office:** Contracts are created using Word and Excel
- **Microsoft OneNote:** Replicates the same look-and-feel as the three-ring binders they had in the past but in digital format
- **Microsoft SharePoint:** Used to route the contracts and also serves as the document repository
- **Microsoft InfoPath:** For digital forms
- **A wide selection of Oracle tools:** Including the Oracle Purchasing Module
- **E-Contracting portal:** External parties securely access the documents they need to sign

To learn more about using e-signatures in e-contracting, email [sales@OneSpan Sign.com](mailto:sales@OneSpan Sign.com) or call 1-888-745-2647 to speak with a business development representative.

### Other E-Contracting Resources:



**Video presentation:** IT Heroes Showcase: Paperless Contracting Initiative at Jet Propulsion Laboratory (JPL)



**Article from Government Computer News:** NASA Launches "Paper-less" Procurement Packages



OneSpan enables financial institutions and other organizations to succeed by making bold advances in their digital transformation. We do this by establishing trust in people's identities, the devices they use, and the transactions that shape their lives. We believe that this is the foundation of enhanced business enablement and growth. More than 10,000 customers, including over half of the top 100 global banks, rely on OneSpan solutions to protect their most important relationships and business processes. From digital onboarding to fraud mitigation to workflow management, OneSpan's unified, open platform reduces costs, accelerates customer acquisition, and increases customer satisfaction.



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