

The IT Support Engine: Meeting End-User and IT Organizational Demands

A thesis submitted to Southern Utah University
in partial fulfillment of the requirements for the degree of

Master of Arts in Professional Communication

December 2018

By

Kyle M. Braeburn

Thesis and internship committee:

Kevin Stein, Ph.D, Chair

Art Challis, Ph.D

Matt Barton, Ph.D

We certify that we have read this thesis and that, in our opinion, it is satisfactory in scope and quality as a thesis for the degree of Master of Professional Communication.

Thesis Committee

Kevin Stein, Ph.D, Chair

Art Challis, Ph.D

Matt Barton, Ph.D

Introduction

Please note that proprietary information belonging to SkyWest, Inc., SkyWest Airlines, or ExpressJet Airlines, is not included in this document.

Increased reliance on information technology (IT) to improve and adapt business processes presents numerous challenges to employees and their respective companies in a number of industries. In recent years, these advances have greatly affected several industries, particularly with developments in data management, data aggregation, and data analytics (Choudhury, 2016). Predictive data analytics continues to be of utmost importance in running safe and responsive fleet operation for SkyWest, Inc., parent company of two of the largest regional carriers in the world, SkyWest and ExpressJet Airlines. SkyWest, Inc. (henceforth referred to as SkyWest) has substantially increased the number of electronic devices in the hands of its workforce since 2014 to assist with both disseminating and gathering data. This trend represents a challenge for SkyWest's employees and for IT support, administration and development professionals as their reliance on communication with each other increases year after year.

On the system support side of any IT organization, it can be said that "IT departments that focus on strong customer satisfaction also improve productivity and quality within the IT department" (Murray, 1996, p. 1). Personal experience in IT support indicates that a conversation that starts with 'How can I help you?' too often ends with 'you will need to submit an IT request for that'. Nearly all aspects of an organization today touch the world of information technology in a number of ways, from supporting the hardware and peripherals used to access one or more networks to managing the permissions and applications on those networks. Additionally, an IT organization may be involved in software development and business analytics. To address ever-increasing growth and refocus on satisfaction and productivity, IT department leaders at

SkyWest elected to replace the software driving system support. Together we asked “what if we had a user-facing support system that directed and guided users to help us help them”? The implementation of a replacement support system that is modeled on strong customer support processes is the focus of this internship, including communicating changing aspects of the existing processes to end-users, approvers, and internal IT staff.

This graduate internship is focused on the improvement of the performance and quality of both the end-user and the IT support staff in their interactions with each other through technology at SkyWest. Responsibilities included overall project management of the reorganization, restructure, and reformat of the existing end-user interface for interacting with employees of SkyWest. The system support replacement product selected is the ServiceNow IT service management product suite. The project also provided additional tools for IT to more efficiently complete tasks and resolve reported incidents, as well as reporting tools for evaluating the effectiveness and speed of resolutions. Skills and educational requirements for this internship included knowledge in the fields of corporate, organization, and change management communication as well as knowledge specific to SkyWest’s multiple corporate cultures and organizational structures. The scope of this project includes a partnership with an external best-practice implementation partner for the ServiceNow product, Virteva, Inc., as well as creating and executing a communication plan to train internal IT staff and end-users at multiple locations and offices throughout SkyWest, Inc. on the new product, meeting a launch day deadline, executing a successful launch, and finally continually evaluating and adapting the internal IT and end-user experience.

Because SkyWest had an “IT Help Desk” in its existing structure, part of the initiative of this project was rebranding the IT Help Desk to the “IT Service Desk.” Department leadership

felt inclined to use the word 'service' in department branding wherever possible as part of an effort to refocus on supporting end-users. This new identifier also fits into the existing naming conventions for the ServiceNow product. As part of the design to streamline an end-user support interface, this internship also included qualitative evaluations, specifically focus groups and one-on-one evaluations, of the new interface with high-use employees in the weeks before launch and some weeks after. The overall benefit to productivity and the overall experience using the new features the user-interfaces offered were the primary evaluation targets. This effort represented the beginning of new relationships between IT support management and key managers with workgroups heavily dependent on the IT support infrastructure and ensured a successful launch. ServiceNow has been active as SkyWest's functioning end-user and internal department primary support tool since November 2016.

Literature Review

While implementing the ServiceNow product with SkyWest, this literature review began with an effort to inform IT department leadership about effective communication plans in large organizations, specifically with interest in the structure of ServiceNow applications as they relate to SkyWest's corporate values and personnel structure. In addition to the structure of personnel and work groups in the IT department and others, the technology infrastructure also needed to be reviewed for compatibility with ServiceNow, especially the existing networks and systems structures at SkyWest. The language, meaning, and value of the basic unit of the 'IT request' was reviewed as an essential artifact of the end-user and internal-department communication. The 'IT request,' no matter its different forms, exists as a record of formal communication and workflow execution between end-users, IT support staff, IT fulfillment staff, and any number of approvers

and/or auditors. Finally, a review of current (pre-launch) processes that are the primary targets for change during the course of the implementation of ServiceNow is outlined.

During the selection process of the ServiceNow product SkyWest's IT infrastructure and corporate organizational culture needed to be considered in relation to the fit within ServiceNow's applications. A typical IT department in a large organization like SkyWest has two larger sub-systems, including Information Technology Service Management (ITSM) and Information Technology Infrastructure Library (ITIL) (Love & Ness, 2016). Both ITIL and ITSM generally coexist in large organizations with a large number of end-users or clients. The ITIL framework represents the internal composition of the subgroups and the information systems they manage and development in an IT department, while ITSM represents the customer-facing support side of that group. ITIL structure heavily influences internal processes in the IT department which affect the end-user, including Incident and Problem Management, Change and Release Management, Configuration and Infrastructure Management (McLaughlin & Damiano, 2007). ITSM represents a middle-man-type support structure that assists with interaction between end-users and the other ITIL-based groups. On the support and service management side, efforts to streamline the end-user interface components is "currently the most popular ITSM standard in operation today" (Potgieter, Bother & Lew, 2005, in Love & Ness, 2016). An ITSM framework includes a large focus on end-users and servicing those end-users through a Service Desk or other front-line support for end-users (Love & Ness, 2016).

The willingness to transition to ServiceNow acknowledges a renewed focus on end-user support and ITSM at SkyWest as the organization's reliance on information technology grows. To continue to be support-oriented and end-user transparent while sustaining new growth, ServiceNow was identified as the key organizational tool to assist in filling this gap, especially in

the areas of internal communication in relation to incident, problem, and request management through an easy-to-use interface. Moving the focus to the technical processes and incorporating new technology while keeping the overall existing model and structure will ensure that SkyWest's IT department can continue its growth in both ITIL and ITSM organizational structures.

Several parts of the infrastructure to consider when deciding to adopt ServiceNow were SkyWest's current hardware, software, data storage, and network substructure in terms of compatibility with the ServiceNow product. Because ServiceNow is not hosted internally, external internet access would be necessary on all devices and networks needing access to ServiceNow. Accounts with single-sign-on functions would need to be created for SkyWest's 20,000+ employees, and existing company workstation assets would need to be imported. Allowing ServiceNow network traffic through required channels would involve coordination with SkyWest's network engineering and intranet development teams. Also, while ServiceNow is overall compatible with all web browsers, during initial testing of the implementation phase it performed worst with Internet Explorer, which is the default browser on nearly all of SkyWest's four-thousand desktop and laptop systems. This represented an opportunity for a coordinated effort between SkyWest's system engineering team, the implementation partner Virteva, and this internship. A number of changes were determined to be required to the end-user Service Portal for the best compatibility results.

These initial assessments (mentioned above) of SkyWest's IT department structure were essential elements in guiding and directing the efforts of all of the involved parties in the implementation of ServiceNow. Throughout implementation, additional assessments informed efforts in the end-user experience, with special consideration given to browser compatibility with

the ServiceNow product, the number of scripts that could be run on the end-user's machine, and the maximum attachment size for incident reports.

The IT request and applicable workflows

The perspectives on what an IT request consists of tends to differ on both ends of the spectrum, from end-user to IT support staff and often from organization to organization. In its simplest form an IT request or incident report is the smallest unit of work provided by the IT department as a mechanism for interacting with end-users. The classic "IT request" may be the synonym for a work order that may or may not follow an established workflow from a 'new'-type state to a 'completed' or 'cancelled' state, or from start to finish. The request may surround a number of topics, largely depending on the model of the IT organization within the larger organization. That organization's specific business interests will be a major factor in the different forms an IT request might manifest. Perhaps the most important aspect to consider is that a *request* is sometimes used as an all-encompassing word, though some IT requests may have more similarities to an *incident* report, regarding a malfunction or difficulty, rather than a *request* for something. In distinguishing between the two, it is generally concluded that an IT request is a pre-packaged work order with an established workflow. It may include a request for a type of access, software, hardware or service that the IT department provides to its end-users or customers. Examples of these are the installation of a software item, access to use a software item, or maybe a service such as providing network access to a certain physical location. Requests are often subject to a start-up-type cost or privileged access and therefore often involve an approval process. An incident report is a work order that reports a discrepancy with an existing level of access, software, or service already being provided by IT. An incident occurs when an event that is not part of a standard operation occurs and assistance is needed to

minimize disruption and ensure quality is not negatively affected. While some types of incident occurrences may be common, like forgotten passwords, they are generally not prepackaged and do not always follow a pre-established workflow. An incident may involve an approval in order to resolve it, which is rare rather than routine.

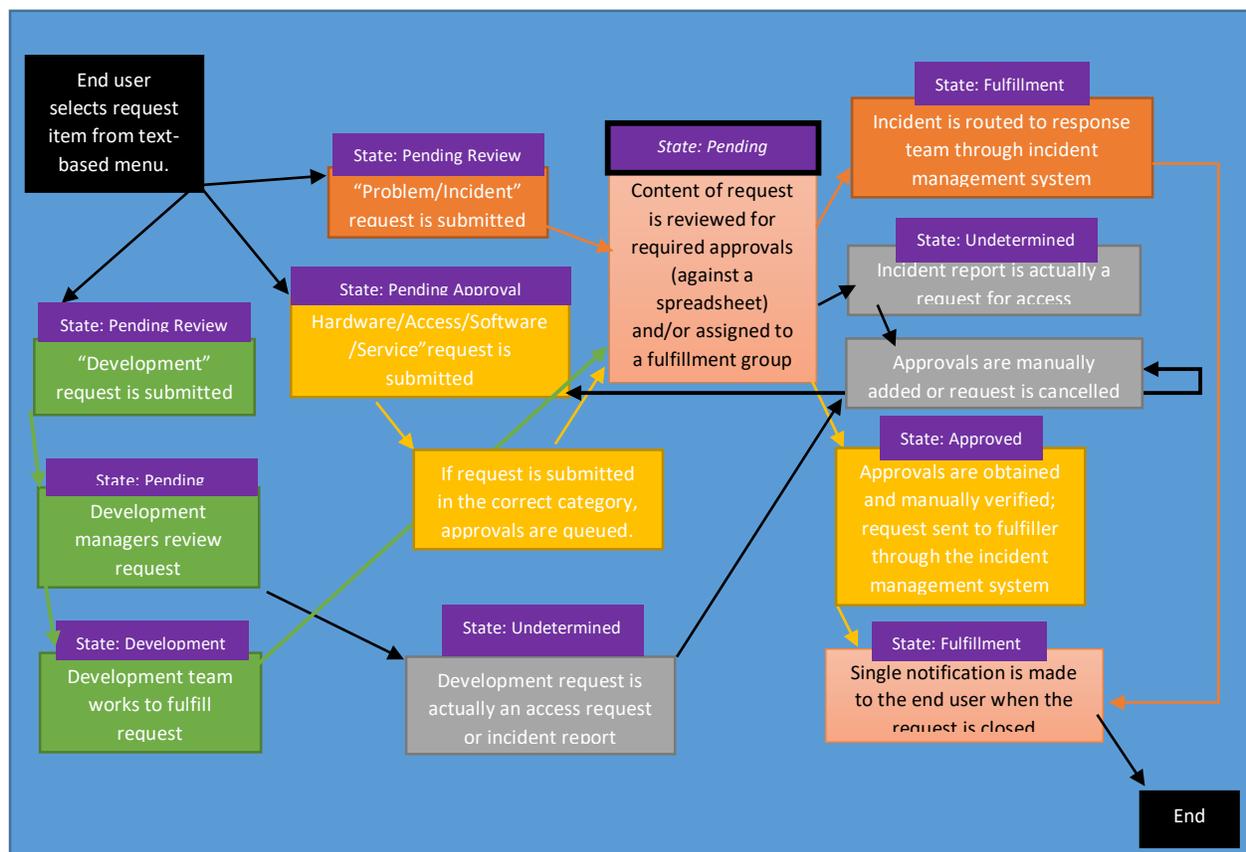
The difference in processing procedures for a request versus an incident is the primary reason for their distinction. In SkyWest's pre-ServiceNow workflows, both requests and incidents have the same complex beginning, manual review processes, and are not organized separately. In the fulfillment stages of this process incidents and requests are indistinguishable, often resulting in confusion about the previous handling of them as either a request or an incident report. Though an IT request is not the most specific term to describe the type of work order being described, its use through much of this internship and the documentation of the ServiceNow implementation project may be used interchangeably between the more specific *request* and *incident* labels.

As part of the implementation of ServiceNow incidents and requests will become separated and distinguishable. Separating the two items has several benefits, though perhaps the most important is the ability for the department to obtain data on the numbers of requests and incidents that are being entered for processing. Reporting tools in ServiceNow will also allow data aggregation and for further investigation into the types of incidents and requests that are commonly being submitted, including analysis of the data for trends and predictability. This data can be made available for department leadership in allocating resources to best serve the needs as it continues to focus on ITSM.

Summary and analysis of SkyWest’s workflows pre-ServiceNow

Before the implementation of ServiceNow, IT requests at SkyWest consisted of a few applications that sent information to each other sequentially, often with a high degree of manual processing, as an IT request would progress to completion. This process encompassed a number of critical processes, such as obtaining required approvals to provide access to or purchase software or equipment and correctly routing those requests for fulfillment to different subgroups within the IT department. In addition, though SkyWest’s Service Desk support media already include phone, online chat, self-service, and email, which are the industry’s most common (Dubie, 2005), the current SkyWest systems were not able to integrate any of these services together. Specifically, three applications and a single set of eyes for manual review and routing of all requests, incidents, and idea or development submissions are provided through this service. The workflows which ServiceNow was originally intended to overhaul and replace are illustrated below in Figure 1.

Illustration of SkyWest IT request process workflow prior to ServiceNow (Fig.1)



What are the potential problems with IT requests and what issues can be addressed with the ServiceNow product?

The figure above contains three distinct beginning paths for a request, an incident, and a development idea, though the end-user interface for submitting these does not distinguish them adequately. Following the specific path of each of these items from beginning to completion requires that all requests go to the , where the content of the request is manually checked against a spreadsheet for approvals and accurate details before being sent to a fulfillment group. While it is understandable that checking the content of a request may be necessary in a number of instances where privileged access or approvals for large purchases must be attained, the inability to bypass that step in any instance at all required a substantial amount of effort, often six or more hours per day, of tedious manual processing of incoming and outgoing request or incident items.

The limited ability to modify the user-forms for submitting a request, incident, or idea were largely the reason for this manual review process. Because information submitted was often partial, incomplete, or lacking in some way, fulfillment teams were generally unable to process a request, resolve an incident, or engage a new idea without getting clarification or additional details. Unfortunately this request system did not contain an integrated communication system, which resulted in emails, phone calls, voicemails and other records being generated in other applications in order to obtain sufficient information in the *Pending* phase for the item to be moved forward.

Though all of the processing was manual, no part of it involved a notification, automated or manually-generated, to end users to inform them of status changes to their request or incident. The information they were able to obtain regarding the status of a request, incident, or idea

without contacting a service desk technician was minimal (usually only the word ‘processing’ or ‘pending’). The lack of information generally left users uninformed and the existing product did not provide tools to assist users with informing themselves. The uncertainty would generate additional work for IT support in the form of incoming calls or chats to Service Desk technicians, requiring them to research an incident or request and read or forward the information to the user.

Finally, the existing process did not allow for a stand-alone workflow from the beginning to the fulfillment stages of a request. When new technicians were being trained to process incoming requests, critical mistakes could occur, including over- and under-approving items. For example, a typical request for an email address to be created requires a manager to approve its creation, an already-automatic process. After the approval is obtained, the request moves to a manual review phase, and new technician may add an additional approver to it, which was unnecessary. The request has now been delayed pending an approval that was not required. An under-approved item is a similar concept, but occurs when a request was approved by approvers without sufficient authority to approve the requested item. Under-approved items result in privileged access being given to systems where it was not wholly authorized and creates unnecessary risk, as well as problems during system access audits.

Given some of these challenges in the workflow process (mentioned above) a number of required outcomes were established as the transition into ServiceNow began. In addition to the other features provided by ServiceNow, the list of items (below) emerged as being imperative improvements that had to be made prior to launch. The items emerged and evolved frequently throughout the implementation process. A bullet list was used as the format for this seriation in

accordance with the *Concise Rules of APA Style (6th ed.)*, which noted that creating a bullet list may be desirable to help “the reader understand the organization of key points” (APA, 2013).

- Overhaul the end-user interface.
 - Overhaul user forms to be interactive so accurate and sufficient information can be obtained and requests moved directly to fulfillment groups.
 - Increase user understanding of the differences between incident and request.
 - Separate the incident form from the service catalog and development idea forms.
 - Increase the request and incident status transparency throughout the process for the end-user.
 - Allow end-users to communicate with both the Service Desk and the person assigned their incident from the service portal, without opening an additional application or dialing into the Service Desk.
- Pre-define user request items in a service catalog.
 - Establish a unique workflow for each request item.
 - The service catalog was initially compiled to include 450 items and about 85 workflows.
 - Completing the service catalog was one of the most involved aspects of this internship and the single largest implementation task.
- Separate the development idea form from the service catalog and incident forms.
- Establish identifiers for data to be categorized and organized on incoming requests, incidents and ideas to identify trends and predict incidents.

- Re-establish internal fulfillment groups and support groups, including backup fulfillers in the event a primary fulfiller is unavailable.
- Perform a grounded theory-based qualitative evaluation of the new service portal around the experience from end-users identified to be the heaviest users of the platform.
 - Qualitative evaluations will be conducted both with focus groups and also individually (one-on-one) with users identified to be key users of the current system. Inductive reasoning will be used based on the feedback received to make practical changes and improvements to the ServiceNow system as implementation progresses.
- Decrease the number of outstanding open requests and incidents.
 - Though the number of open requests and incidents fluctuates frequently, the measuring of the success of this task was defined by the number of requests and incidents open longer than 30 days.

ServiceNow implementation outline and internship responsibilities

The implementation of ServiceNow began with high level meetings with our implementation partner Virteva to address the most critical components that would need to be customized in ServiceNow to immediately replace existing processes. For a graphical view of the implementation plan, please see Figure 2 at the end of this document. The ServiceNow platform modules of incident, problem, knowledge base, service portal, service catalog and workflow management were all identified as the key areas needing completion before launch.

Following the identification of these items, a timeline to implement these components was established including administrative workshops, training seminars, and component

evaluation measures. The implementation portion of the project kicked off on August 15th, 2016 and continued until November 18th, 2016. Each week during the implementation period, beginning August 15th to November 4th, included two one-hour meetings internally identified as administration process workshops and quality assurance peer review trainings. These were recommended by our implementation partner, Virteva, and are part of an effective communication plan to “present specific types of information” to various implementation teams (Torppa & Smith, 2011, p. 63). These training meetings have been recorded and archived for the primary purposes of documenting our implementation progress and to serve as educational tools for future ServiceNow administrators for SkyWest. Responsibilities related to the internship involved coordinating attendance at these meetings as well as documenting and storing all of the training materials and decisions made during the meetings. Each meeting included the generation of a number of tasks relating to the customization of the modules that would take place during the rest of the week before the next meeting. Assignments for those tasks were also determined during these minutes and followed up on throughout the week. Assigned tasks were numerous throughout the project, including smaller items such as incident categories and subcategories, to larger items, including setting up and testing workflows. Virteva also provided a weekly status report detailing the overall progress to IT department leadership.

Communication plan

The primary objectives of the communication plan were to drive the awareness of the coming change, and subsequently the value of that change. Recent research in communication plans, conducted by Torppa & Smith,

“indicated that personnel who believed [change] was needed, was designed appropriately, that the organization was capable of implementing it, that leaders believed in it, and that it would

ultimately benefit them in some way were also more receptive to the change and motivated to make it a success” (2011, p. 71).

Every effort was sought to ensure successful adoption by key leaders throughout the SkyWest organization. With various department leadership and the assistance of the implementation partner, Virteva, Inc., we established a number of key dates for communicating meaningful information to the affected subgroups, specifically managers with higher than average use of the current system, non-IT fulfillment groups, IT fulfillment groups, and higher than average approvers. The theme we developed and executed was intended to demonstrate focus on ITSM, frequently using the terms ‘help’ and ‘support.’ In summary, the content of the communications were intended to inform users and IT staff concerning

- what is coming;
- the expected value and the issues being addressed;
- high-level dates;
- where to find additional information;
- who to contact with questions;

Additionally, IT department leadership decided early in the project to engage in dual-logo branding wherever necessary, incorporating logos from both SkyWest Airlines and ExpressJet Airlines together on the Service Portal and other branded pages.

Several key project dates for the implementation of the communication plan are outlined below.

- 7/28/16: Create marketing materials for the new site and communications, specifically new logos and a new corporate background for the site and announcements.

- 8/15/16: Kick-off party and administrative tasks begin.
- 8/30/16: The project is announced internally to the IT department, including the 11/7/16 launch date.
- 9/22/16: A presentation to the IT department on changes to expect, and general feedback and Q&A is requested.
- 10/10/16: An announcement is posted to the internal home pages of both SkyWest and ExpressJet Airlines regarding the coming changes. See Figure 3 to the right.
- 10/10/16 - 10/14/16: Service portal demonstrations to focus groups and Q&A meetings are setup with company leaders in St. George (SGU) and Salt Lake City (SLC), Utah, Houston (IAH), Texas, and Atlanta (ATL), Georgia. A total of 8 demonstrations are conducted.

Figure 3

New IT Ticketing and Support System

October 10, 2016 1400 MT



In the coming weeks, IT will be migrating incident and user support to a new user-friendly system called ServiceNow. The new system will offer tools that streamline the IT request and incident management processes. As part of our transition, the IT Help Desk will now be called the IT Service Desk.

What's Different?

New Service Portal: All requests and incidents will be in a single location, where you can see their status or progress in real time.

New Knowledge Base: IT will offer an expanded self-help knowledge base and the ability to request assistance by selecting from a list of available services.

New Chat Interface: IT chat will be accessible from inside the new service portal.

What's the Same?

You will still be able to call IT for assistance. The Service Desk phone number [redacted] and hours for service are unchanged:

- Monday through Friday, 4 a.m. – 5 p.m. MT. Saturday and Sunday, 4 a.m. – 2 p.m. MT.
- After hours support is available if you are experiencing an issue that will cancel/delay a flight.

More Information

Watch SkyWest Online in the coming weeks for more information and training on the new system.

Click [here](#) for the Heads Up Corporate Bulletin.

When the module administration workshops concluded on October 14th, 2016, a focus group of the end-users with the highest interaction with the system was scheduled and executed in order to obtain qualitative feedback. These end-users were identified as having a specific contribution in providing significant numbers of requests and incidents, as well as specifically needing to be informed of these changes. Their feedback regarding their experience with the new interfaces was crucial to a successful launch. This began the week of October 24th to October 28th and was accomplished by assigning those users to technicians on the system support teams for

face-to-face meetings and qualitative review of the service portal functions. Technicians were directed to review the experience of the home page, the service catalog, the incident report form, the knowledge base, and the chat features. Feedback regarding one or more of the above items was requested from 65 users from four company locations. Responses were recorded for 37 users, including several users from SkyWest Airlines corporate headquarters in St. George, Utah and ExpressJet corporate headquarters in Atlanta, Georgia. Below are several examples of more critical and actionable feedback received.

Several users in SLC on the service catalog: “... recommended making it more known where to go to request access or get/buy request like before and by possibly putting the verbiage under the Service Catalog button to say something along the lines of ‘Click here to submit an access request or get/buy request’”.

Action items: Modified verbiage to match previous request system verbiage and increased the overall size of icons used to show the location of the catalogs and others

Relevant category from implementation goals: “Increase user understanding of the differences between incident and request”

V. H., SLC Hangar, and E. C., Atlanta HDQ, on the service catalog:

“Did not give me the option to request projector bulbs. Was not clear on where to go to do a request for purchase”.

Action items: Added a catalog item and a workflow for requesting projector bulbs

Relevant category from implementation goals: “Pre-define user request items in a service catalog”

K. A., St. George HDQ, on the landing page:

“Game (breakout) is distracting because she couldn't pause it, made her forget what she was going to the page for”.

Action items: Removed “Breakout” game from the landing page

Relevant category from implementation goals: “Overhaul the end-user interface”

H. S., St. George HDQ, on the landing page and company website integration:

“Suggested making it look a little more like SWOL, if possible. She pointed out that users are getting re-directed to an external site. If it looks too foreign, they might just close it, thinking they went to the wrong webpage. Perhaps giving the page a left hand Nav. Menu, with Knowledge, Service Catalog, Help, and Chat links on it. Long side the already existing links in the middle of the page”.

Action items: Some of these items are still in development, including better integration with the existing company intranet site.

Relevant category from implementation goals: “Overhaul the end-user interface”

G. A., St. George HDQ, on the landing page:

“The "How can I help you" search field and the airplane image take up too much webpage space. His go-to clicks would be to the 4 options, KB, Catalog, Help, and Chat”.

Action items: Increased the size of these primary-use icons.

Relevant category from implementation goals: “Overhaul the end-user interface”

G. E., Atlanta HDQ, on the incident report form:

“Help request, her service tag wasn't auto-populating, wouldn't allow her to submit a help ticket without her service tag”.

Action items: No action was taken to remove the field requiring the service tag. It was decided response times would be overall more efficient if the affected systems were immediately identified in the incident report by their service tag. Added the ability for users to identify their issue is for a personal device, which, when enabled, removed the requirement for a service tag on the form.

Relevant category from implementation goals: “Overhaul user forms to be interactive so accurate and sufficient information is obtained on the first pass”

K. W., Atlanta HDQ, on the service catalog functions:

“CrewTrac didn't prompt for CRJ or ERJ for Marilyn Carter on a mock access request”.

“Kevin submitted a CrewTrac ticket for himself as a mock request and it added Jay Oyler as an approver”.

Action items: CrewTrac catalog item and workflow was overhauled immediately following launch.

Relevant category from implementation goals: “Overhaul user forms to be interactive so accurate and sufficient information is obtained on the first pass”

B. W., Atlanta HDQ, on email notifications from requests:

“Email notifications are emailed to the person who requested it and the person it's for.

The link to the request in the email for the person it's for works, but the link in the requestor's email takes them to their homepage and they aren't able to track the progress of requests they submitted for other users. Bethany thinks it would be useful to allow both parties to see the request in their Service Now help screen”.

Action items: A final notification-items workshop was conducted the day before launch to revisit any notification items that had been missed. No action was taken on this item at that time. However, the email notifications and request history pages have since been overhauled (February) to include this functionality.

Relevant category from implementation goals: “Increase the request and incident status transparency throughout the process for the end-user”

B. K. and S. R., Atlanta HDQ, on pending approvals:

“She asked for an xjt.com home page attention item for pending approvals”.

Action items: A query from the company intranet site to the pending approvals table in ServiceNow was created to display a notification when approvals were pending

Relevant category from implementation goals: “Increase the request and incident status transparency throughout the process for the end-user”

Continuation of the communication plan timeline:

- 10/27/16: Another announcement is posted to the internal home pages of both SkyWest and ExpressJet Airlines regarding the coming changes. The wording is retroactively changed post-launch (11/7/16) to say “has launched” and the launch date removed. See Figure 4 to the right.
- 10/31/16 – 11/4/16: Training workshops are scheduled with internal IT department groups and non-IT fulfillment groups. These are the licensed users who will utilize ServiceNow to assist end-users. A total of 8 training seminars are conducted.
- 10/31/16 – 11/4/16: Final internal quality control checks are performed with IT support staff, including workflow and notification automation tests.
- 11/7/16: ServiceNow is launched; pre-ServiceNow request system is disabled
- 11/7/16 – 11/18/16: Review and warranty period with Virteva
- 11/14/16: IT department staff are repeatedly notified that they have 7 days to transfer request and incident items from pre-ServiceNow system to ServiceNow
- 11/14/16: Adoption progress meetings take place weekly for several weeks

New IT Support System: ServiceNow Figure 4

October 27, 2016 1600 MT

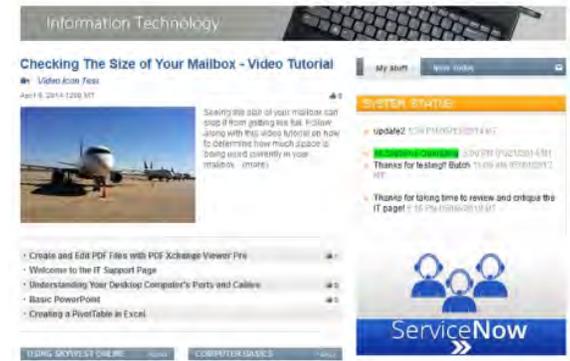


IT has launched its new incident and user support system. As part of the new system, several links and buttons on the IT page of SkyWest Online have been replaced with a single larger button (see below) that will bring you to the new Service Portal. From this portal you can order equipment, services, report problems and connect with IT via LiveChat.

IT will also be posting how-to videos documenting the new process for submitting requests, reporting incidents, suggesting development items, and starting a chat. Several of these videos are now available on the IT page.

You can still call IT for assistance. The Service Desk phone number [435-435-4354](tel:435-435-4354) and hours for service are unchanged:

- Monday through Friday, 4 a.m. - 5 p.m. MT. Saturday and Sunday, 4 a.m. - 2 p.m. MT.
- After hours support is available if you are experiencing an issue that will cancel/delay a flight.



Post-Launch Review and On-going Integration Efforts

Attempts to individually address all post-launch negative feedback were made to establish increased rapport and understanding between IT support staff and end-users. A coordinated effort to address issues that emerged during launch began immediately following launch and a full product review with the implementation partner Virteva took place during the weeks immediately following launch. Much of the review work in this area involved IT request processing scenarios that had not been anticipated or demonstrated during quality control checks. They typically involved a catalog item-specific workflow and/or catalog item changes in the new service portal.

Integration into the overall company organization, as well as the continued expansion of IT's presence within SkyWest, has given ServiceNow and IT a significant amount of visibility to the company. A bi-annual review of ServiceNow usage statistics has been established in an effort to identify where the platform is being used the most and in what areas it can be utilized more. The first review took place in July, 2017 with representatives from SkyWest and ServiceNow. Training seminars have been established to instruct all new leaders entering into leadership positions at SkyWest Airlines with a brief 20 minute introduction into the tools and features available to them for interacting with the IT department through the service portal. This meeting, typically conducted every six weeks, also involves a Q&A session which allows participants to provide open-ended feedback about their experiences with the service portal and ServiceNow.

The goal to improve SkyWest's ITSM, including the responsiveness to end-user requests and incident reports as compared to the pre-ServiceNow era, is a difficult one to measure adequately. The data available for determining the response times before ServiceNow were seriously lacking and thus the ability to draw metric-based comparisons is inconclusive. Some of

the data available to IT leadership after adopting ServiceNow are the number of incidents logged and the methods used to log them, number of requests automatically filled, number of incidents not resolved on a first contact, the ability to trend incidents by category, and much more.

Because these additional measurements mentioned above are some of those that an IT organization focusing on ITSM needs in order to set achievable goals for improvement, the adoption of ServiceNow will greatly assist in continuing to improve ITSM at SkyWest. Some metrics that were able to be evaluated, though, are a year following the launch of ServiceNow the number of incidents open longer than 30 days has decreased to roughly half of the size as with the previous request system. Chat utilization increased by roughly 70%. The number of the views of knowledge base or self-help articles has increased month over month since ServiceNow's adoption. Additionally, in the year since adoption, no changes to the department personnel structure have been deemed necessary by leadership. Given the above information we conclude that ServiceNow has successfully integrated into SkyWest's IT and corporate infrastructures.

In the words of David D'Agostino in *American ITIL (2007)*, "Everyone has incident management, but what you surround it with is what matters. You need incident and change management and real workflow, and also the right kind of approval process. You need a flexible, definable engine...". Much of the feedback received from end-users just prior to launch praised the "look and feel" as well as the general "ease of use" of the service portal and end-user interfaces. In terms of the project goals to begin increasing SkyWest IT's focus on increasing ITSM presence, ServiceNow's launch and its continued expansion of use has been a significant step in that direction. SkyWest's system support tool replacement allowed it reach that flexible, definable, and growth-capable status.

Conclusion

This internship has allowed me to challenge myself both professionally and personally in the areas of both professional communication and project management. An article in The American Communication Journal identified communication as “integral part of every organizational action and cannot be seen as an isolated function... most, if not all staff members, must have communication competence” (Conrad & Newberry, 2011, p.16). In many ways I owe my current position in the company to several of the key aspects of managing a project of this size and scope. Some of those key aspects were

- demonstrating personal and operational reliability in a highly visible position;
- working with various department leaders, including top leadership in my own department to accomplish and define department and company goals;
- managing implementation tasks and deadlines between various independent workgroups;
- managing communications plan to create and develop a theme of help and support;
- regularly representing the IT department in high profile face-to-face and written communications;
- representing SkyWest to outside organizations;
- learning to read javascript and basic writing of simple javascript code; and
- responsibly executing the implementation with effective use of the resources made available.

I credit much of the success of this project to my academic background in professional communication and also my undergraduate work psychology. Experiences, professional and personal, throughout the course of my education, have provided me with skills that were

essential in the execution of this internship. Most notably were the ability to focus on the end-user perspectives in order to drive the ITSM focus, fundamental organization communication concepts, and an increased understanding of the value of qualitative and quantitative feedback and the areas they can be utilized in a corporate IT organization. The skills listed here have helped me excel in my career at SkyWest and to develop and hone my skills as a professional communicator in a meaningful way with real-world experiences and impacts.

References

- American ITIL: Help desk software comes of age. (2007). *Windows IT Pro*, 13(9), 19.
- American Psychological Association (APA). (2013). *Concise Rules of APA Style* (Sixth ed.).
- Basu, A., & Jarnagin, C. (2008). How to tap IT's hidden potential. *Wall Street Journal - Eastern Edition*, 4.
- Berman, S. (2007). Security architectures and the new IT organization. *Business Communications Review*, 37(5), 40.
- Brumfield, E. (2008). Using online tutorials to reduce uncertainty in information seeking behavior. *Journal of Library Administration*, 48(3/4), 365-377.
- Choudhury, G. S., (2016). Data management at scale. *Information Services & Use*, 36(1/2), 27-33. doi:10.3233/ISU-160795
- Chua, C., & Storey, V. C. (2017). Bottom-up enterprise information systems: Rethinking the roles of central IT departments. *Communications of the ACM*, 60(1), 66-72.
doi:10.1145/2950044
- Coombs, W. T. (2012). *Ongoing crisis communication: planning, managing, and responding*. Thousand Oaks, CA: Sage.
- Coombs, W. T., & Holladay, S. J. (2010). *The handbook of crisis communication*. West Sussex, UK: Wiley-Blackwell.
- Conrad, D., & Newberry, R. (2011). 24 business communication skills: Attitudes of human resource managers versus business educators. *American Communication Journal*, 13(1), 4-23.

Dubie, D. (2005). Correlating customer service with IT intelligence. *Network World*, 22(10), 28.

Ragowsky, A., Licker, P. S., & Gefen, D. (2008). Give me information, not technology.

Communications of the ACM, 51(6), 23-25. doi:10.1145/1349026.1349032

Love, V. D., & Ness, L. R. (2016). Integrating ITSM into the corporate environment. *Journal of Health Care Compliance*, 18(3), 5-12.

Jia, R., & Reich, B. H. (2011). IT service climate - an essential managerial tool to improve client satisfaction with IT service quality. *Information Systems Management*, 28(2), 174-179.

Martinsons, M. G., Davison, R., & Martinsons, V. (2009). How culture influences IT-enabled organizational change and information systems. *Communications of the ACM*, 52(4), 118-123. doi:10.1145/1498765.1498798

Murray, J. P. (1999). Successfully hiring and retaining IT personnel. *Information Systems Management*, 16(2), 18.

Murray, J. P. (1996). Making customer service a priority. *Information Systems Management*, 13(1), 7.

Murray, J. P. (2004). Judging IT department performance. *Information Systems Management*, 21(2), 72-77.

Price, A. F., & Chahal, K. (2006). A strategic framework for change management. *Construction Management & Economics*, 24(3), 237-251. doi:10.1080/01446190500227011

Torppa, C. B., & Smith, K. L. (2011). Organizational change management: A test of the effectiveness of a communication plan. *Communication Research Reports*, 28(1), 62-73. doi:10.1080/08824096.2011.541364

Zaner, J., & Wilson, G. (2005). Bring discipline to your web site. *Tech Directions*, 64(10), 21-24.

Appendix

Figure 1

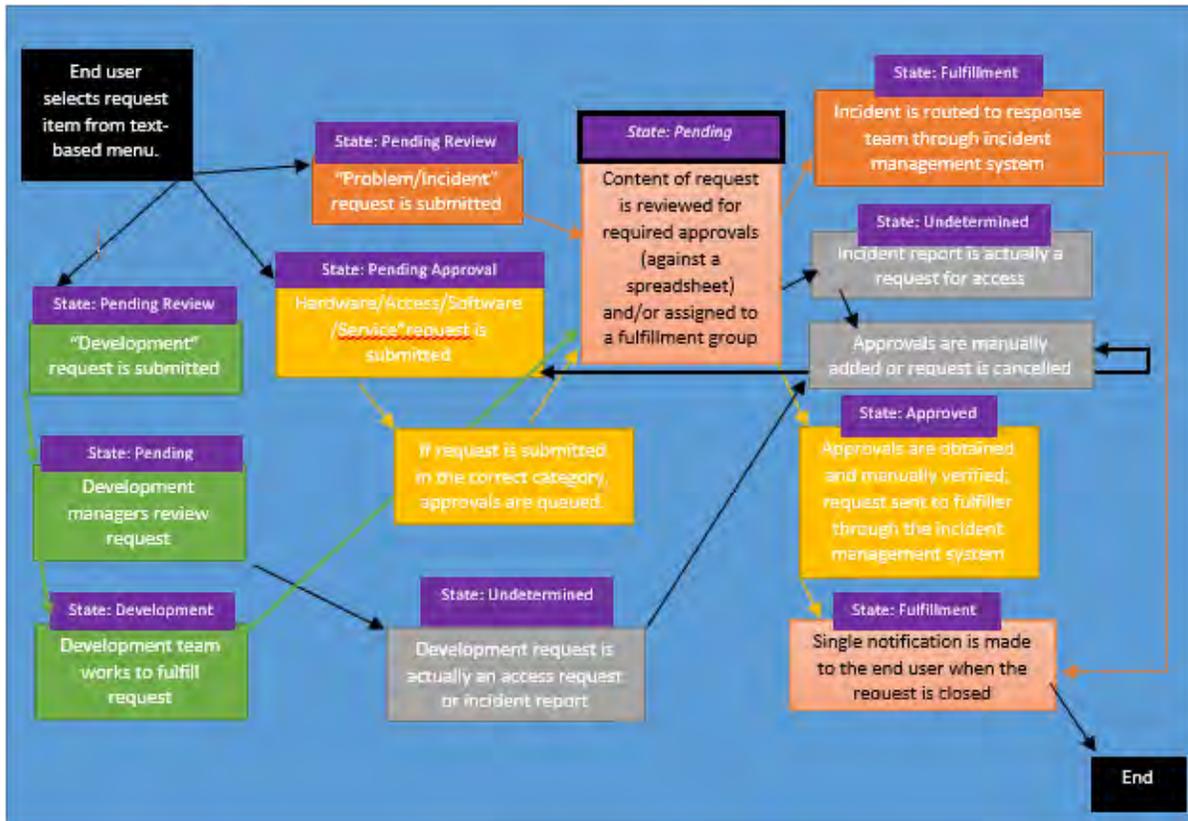


Figure 2

SkyWest Airlines SN Rapid Deployment Project
Subcontract with SoftChoice
8/15-11/18/16

| Dates | 7/25/2016 | 8/12/2016 | 8/15/2016 | 8/19/2016 | 8/22/2016 | 8/26/2016 | 8/29/2016 | 9/2/2016 | 9/5/2016 | 9/9/2016 | 9/12/2016 | 9/16/2016 | 9/19/2016 | 9/23/2016 | 9/26/2016 | 9/30/2016 | 10/3/2016 | 10/7/2016 | 10/10/2016 | 10/14/2016 | 10/17/2016 | 10/21/2016 | 10/24/2016 | 10/28/2016 | 10/31/2016 | 11/4/2016 | |
|------------------------------------|-----------------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-------------------------|----------|-------------------------|-----------|-------------------------|-----------|-----------|-----------|-------------------------|-----------|------------|------------|------------|------------|------------|------------|------------|-----------|--|
| Weeks | | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | |
| Phase | Definition | Deployment Phase | | | | | | | | | | | | | | | | | | | | | | | | | |
| Set Up | Project and Instance Set Up | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Core Configuration | | Core Configuration (Mid Server, LDAP, Users, Locations, Dept, SSO, etc.) | | | | | | | | | | | | | | | | | | | | | | | | | |
| Incident Management | | | | | | Incident | | | QA/Peer Review/Training | | UAT | | | | | | | | | | | | | | | | |
| Knowledge Management | | | | | | | | Knowledge | | | QA/Peer Review/Training | | UAT | | | | | | | | | | | | | | |
| Problem Management | | | | | | | | | | Problem | | | QA/Peer Review/Training | | UAT | | | | | | | | | | | | |
| Change Management | | | | | | | | | | | | | | Change | | | QA/Peer Review/Training | | UAT | | | | | | | | |
| Service Catalog Request Management | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Service Portal | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Figure 3

New IT Ticketing and Support System

October 10, 2016 1400 MT



In the coming weeks, IT will be migrating incident and user support to a new user-friendly system called ServiceNow. The new system will offer tools that streamline the IT request and incident management processes. As part of our transition, the IT Help Desk will now be called the IT Service Desk.

What's Different?

New Service Portal: All requests and incidents will be in a single location, where you can see their status or progress in real time.

New Knowledge Base: IT will offer an expanded self-help knowledge base and the ability to request assistance by selecting from a list of available services.

New Chat Interface: IT chat will be accessible from inside the new service portal.

What's the Same?

You will still be able to call IT for assistance. The Service Desk phone number () and hours for service are unchanged:

- Monday through Friday, 4 a.m. – 5 p.m. MT. Saturday and Sunday, 4 a.m. – 2 p.m. MT.
- After hours support is available if you are experiencing an issue that will cancel/delay a flight.

More Information

Watch SkyWest Online in the coming weeks for more information and training on the new system.

Click [here](#) for the Heads Up Corporate Bulletin.

Figure 4

New IT Support System: ServiceNow

October 27, 2016 1600 MT



IT has launched its new incident and user support system. As part of the new system, several links and buttons on the IT page of SkyWest Online have been replaced with a single larger button (see below) that will bring you to the new Service Portal. From this portal you can order equipment, services, report problems and connect with IT via LiveChat.

IT will also be posting how-to videos documenting the new process for submitting requests, reporting incidents, suggesting development items, and starting a chat. Several of these videos are now available on the IT page.

You can still call IT for assistance. The Service Desk phone number (435-) and hours for service are unchanged:

- Monday through Friday, 4 a.m. – 5 p.m. MT. Saturday and Sunday, 4 a.m. – 2 p.m. MT.
- After hours support is available if you are experiencing an issue that will cancel/delay a flight.

