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2017-2018
MESSAGE FROM THE BOARD CHAIR

We are pleased to provide you with this comprehensive report outlining some of NWRDC’s key accomplishments this fiscal year. These activities have directly benefited all of us as the customers. On behalf of the Policy Board, I would like to extend my gratitude for the outstanding service the dedicated staff members are providing to all their clients. We had another successful fiscal year as all cost centers continued to operate in a positive cash flow and the accounts receivables are in line with best accounting practices with a minimal aging. We yet again experienced a growth in the annual operating budget as service offerings were expanded and the client portfolio increased. None of these successes could be recognized without the expertise of the center’s enthusiastic team of individuals.

The new storage system is gaining more popularity and we are embarking on plans to evaluate options for the mainframe. NWRDC is cost-conscious and is continually exploring new opportunities to reduce operating costs while maintaining quality of service and the cusp of emerging technologies.

Our core values and mission are centered around customer satisfaction and providing superior service. This is evident in the various mechanisms through which we engage our customers and broker relationships with key technology vendors on their behalf. Hybrid cloud solutions are becoming increasingly popular and those offered by NWRDC have been well-received by many state agencies and institutions alike. This is of particular importance for entities under strong budget constraints. The capacity-on-demand model has enabled our customers to maximize cost efficiency, generating substantial savings over traditional solutions. We will maintain our commitment to providing the highest level of customer service in the upcoming year.

None of these accomplishments would have been possible without NWRDC’s ability to recruit and retain qualified staff with the support of a solid leadership team. On a personal note, as a customer, it is always a rewarding experience to seek advice and expertise from this dedicated team.

Lastly, I wish to express my gratitude to my colleagues on the Policy Board. Their unwavering support in moving the mission of the center forward is remarkable. I am both honored and humbled to serve as chair. I also want to extend my sincere appreciation to Michael Barrett, who has announced his upcoming retirement from Florida State University. Mr. Barrett’s service as Policy Board Vice Chair and Management Committee Chair over the past ten years has been invaluable. He has been a pillar of strength, a great colleague and I consider him a dear friend. His wisdom and candor will be greatly missed.

I congratulate my colleagues on the Policy Board and NWRDC’s staff on the center’s excellence this year and look forward to continued success in the upcoming fiscal year.
Executive Director’s Message

Thank you for taking the time to review the Northwest Regional Data Center (NWRDC)’s FY 2017-2018 Annual Report. This year marks another success in NWRDC’s 46-year history of service to you and the State of Florida.

At NWRDC, we continue to improve our services for you. This year, we renegotiated rates for our storage service, which resulted in an almost 60% rate reduction for our STaaS customers. We also expanded our service partnerships, adding ForeScout’s Visibility as a Service to our catalog of solutions. See page 10 of this report to view the full details of this new offering. Additionally, we leveraged our existing partnerships in new ways, including the successful deployment of CenturyLink and Amazon Web Services for the Florida Department of Health’s disaster recovery project.

NWRDC also continues to be strong financially. The 2017-2018 Fiscal Year is now the 8th straight year where many of our services have credited money back to our customers at the year’s end. I challenge you to find another cloud services provider where the customers approve all of the service rates and get refunds for any money left over at the end of fiscal year!

In June, we were pleased to welcome Julia Cunningham as our new Financial Operations Manager. Julia’s addition to the senior leadership team has enabled NWRDC to strengthen its commitment to quality financial reporting, rate development and customer service.

This year also marks my 10th anniversary as Executive Director for NWRDC. Over the last 10 years, we have grown from providing just mainframe and colocation services to being a full-fledged cloud and managed services provider. This was 100% due to our dedicated team of staff, the leadership of our Policy Board, and you, our customer. Working together yields success!

We continue to search for the next opportunity to improve our current offerings and develop new solutions for our customers. As always, if NWRDC can be of any service to you, please let us know. Thank you!
Our mission is to be the most efficient and innovative data center in the state of Florida through state-of-the-art technology, leadership and partnerships. We are a dedicated service organization committed to providing a wide range of technology support for primarily public and not-for-profit entities on a cost recovery basis. We fulfill our mission by supporting our customers in accomplishing their goals and missions.
Collaboration is a key part of the success of any organization, executed through a clearly defined vision and mission, and based on transparency and constant communication.

**DIANNA NORWOOD**  
Associate Director, Administration  
Prior to joining the center in 2013, Dianna served as Marketing and Public Relations Director for FSU’s Division of Finance and Administration. Her career at FSU has spanned over 30 years. She earned her Bachelor of Science degree in Business Communication and Marketing from FSU.

**MATT STOLK**  
Chief Technology Officer  
Matt brings more than 18 years of hands-on technical and managerial experience in enterprise IT architecture. He held a number of positions at the Florida Department of Corrections and other entities prior to joining NWRDC in 2007.

**MIKAL HANEY**  
Associate Director, Facilities & Operations  
Mikal has 37 years of experience in diverse technical and management consulting engagements. He began his IT career while in the United States Marine Corps and received his computer science education at West Texas State University. He joined NWRDC in 2003.

**JULIA CUNNINGHAM**  
Financial Operations Manager  
Julia joined NWRDC in 2018 and brought with her over eight years of non-profit accounting and financial management experience as a former Director of Finance and Administration and Contracts and Grants manager. She holds a Bachelor Degree from Florida A&M University.
Chair Basiratmand welcomes NWRDC’s first City, County and Local Government representative, Sandra Stevens, to the board.

NWRDC is governed by a Policy Board consisting of its major customers. Policy Board membership is determined based on the percentage of revenue paid to the center and reviewed annually.

**DR. MEHRAN BASIRATMAND, CHAIR**  
Small User Representative  
Chief Technology Officer, Information Resource Management  
Florida Atlantic University

**MICHAEL BARRETT, VICE CHAIR**  
Management Committee Chair  
Associate Vice President, Chief Information Officer  
Florida State University

**JESUS ARIAS**  
Affiliate Member  
Business Continuity/Disaster Recovery Manager  
Florida International University

**MICHAEL DIECKMANN**  
Chief IT Strategist, Innovation Institute  
University of West Florida

**RONALD HENRY**  
Associate Vice President, Information Technology  
Florida A&M University

**GENE KOVACS**  
Management Committee Member  
Assistant Vice Chancellor  
State University System of Florida Board of Governors

**DAMU KUTTIKRISHNAN**  
Chief Information Officer  
Florida Department of Revenue

**HENRY MARTIN**  
K-12 Representative  
Management Committee Member  
Technology Information Officer  
Walton County School District

**DR. ANDRE SMITH**  
Management Committee Member  
Deputy Commissioner, Division of Technology Innovation  
Florida Department of Education

**SANDRA STEVENS**  
City, County and Local Government Representative  
Information Technology Director  
City of Boca Raton Florida
Steve Menard retires after forty-five years of dedicated service to NWRDC and its customers

Steve was honored at the February 2018 Policy Board meeting, when the raised floor room that houses the IBM Mainframe was named in honor of his distinguished career.

After unveiling the plaque designating the Steve Menard Computing Suite, Steve expressed his gratitude and stated: “my role here was always one of customer service. That is something that I took very seriously. There is little in this world that gives me greater pleasure than helping someone figure out how to do something they did not previously know how to do. I appreciated the opportunity to be of service to NWRDC and its customers.”

The data center was less than a year old when Steve arrived at the Williams Building on Florida State University’s campus in 1973. At that time, NWRDC’s three customers were FSU, Florida A&M, and the University of West Florida. Keypunch machines were the tool of choice for all programs and job streams and the two printers cranked 24-7 producing vast amounts of green bar reports. The count of 3270 terminals in the entire network was less than 10. From those humble beginnings, the data center continued to grow and expand services. Over time, NWRDC acquired most of the State universities, the Florida Department of Education, and many Florida counties and cities as customers.

The data center’s first order of business was to teach our customers’ programming staff how to code online programs. Steve was tasked with teaching them Easytrieve. Since that first project, Steve learned and taught many software products including CICS, BMS, ODE, ASSIST, KOMMAND, COBOL, and IBMTOOLS. Steve’s former coworkers tried to come up with a word that would best describe him, but the fact is he can’t be summed up in just one word. They came up with two: dedication and keystone. Customers and coworkers alike depended upon him for support and considered him essential to the mission of the data center.

Similar sentiments were expressed by the data center’s Executive Director, Tim Brown: “As one of the first employees of NWRDC, Steve set the bar and literally defined ‘customer service’ for us. Over his forty-five years here, he made sure everyone around him stayed focused on one thing: How can we help? As I meet with our various customers around the state, I always have at least one person ask ‘How’s Steve? You know, he taught me..’

Steve, your presence here will certainly be missed on a daily basis. You taught us well and will always be a part of the Northwest family. Thank you.
“There is little in this world that gives me greater pleasure than helping someone figure out how to do something they did not previously know how to do.”
NWRDC Launches Visibility as a Service

State Risk Assessment

In 2016, risk assessments of 16 of Florida’s public sector entities highlighted the need for better visibility across their networks. The assessment showed or confirmed that some organizations needed better network access control, others a way to integrate network admission control (NAC) into their configuration management database (CMDB), and still others improved endpoint compliance for FERPA, HIPAA, CJIS, PCI, and other regulations. NWRDC recognized that in today’s ever-changing cyber climate, seeing exactly what and who is accessing or trying to access your network is essential to security.

In an effort to assist our customers in addressing these concerns, NWRDC examined a variety of security tools. After much research, we opted to partner with ForeScout Technologies to provide its CounterACT® solution through our subscription-based Visibility as a Service (VaaS). Using an agentless approach, VaaS provides rapid visibility across all devices as they connect to a network, whether via wired, wireless, or VPN connection. The service automatically determines the user, owner, operating system, device configuration, software, services, patch state and the presence of security agents for all devices—all while providing continuous remediation, control and monitoring of these devices.

Discovering More than Expected

Most of our VaaS customers discovered almost immediately that they had many more devices on their networks than they realized. The devices that VaaS discovered ranged from forgotten, obsolete workstations to unauthorized smartphones and much more. These organizations now have at their fingertips all the pertinent details to locate and manage these devices. Our VaaS solution is a key tool for our customers, as asset management is one of the most critical security controls for any organization.
“We realized that ForeScout could meet multiple visibility needs across the state, well beyond just NAC. It was also more cost-effective than many point solutions. In short, ForeScout CounterACT provided a real bang for the buck.”

-- Matt Stolk, Chief Technology Officer

Making Visibility Affordable

Every NWRDC customer desires a strong security posture and most know how to achieve it, but budgetary constraints often become an insurmountable hurdle. For many of our VaaS customers, the ability to gain comprehensive visibility without having to spend the money on expensive hardware and added operational overhead is what made procurement possible. In addition, our VaaS customers have reaped significant cost savings through the reseller discount we were able to negotiate with ForeScout.

Cost savings were also achieved by our VaaS customers as they do not have to maintain or refresh any hardware. Our VaaS solution does not require the installation of software agents, making implementation easy. Within just a few days, our VaaS customers gained complete visibility of all devices connected to their networks at the moment they connected, with context around their posture and compliance.

Internal Benefits

Internally, NWRDC has also benefitted from the new service. Seeing a need to improve our manual asset inventory processes, we wanted to automate steps in the discovery and notification of new devices on our network. In addition to supplying us with an accurate asset inventory, the ForeScout solution lets us know exactly what is plugged into our network and what devices are available at any given moment.

Flexibility

One of our customers uses the VaaS solution as a discovery tool to streamline its security incident management efforts and to populate its CMDB. Another uses it to continually hunt for any network vulnerabilities and unforeseen network intrusions. Others have switched from reactive to proactive network scanning because of the ease of scanning the network for abnormalities. NWRDC is deploying CounterACT Extended Modules to automate tasks and enhance the capabilities of our existing vulnerability management, firewall, and endpoint compliance solutions.

Learn More

Contact info@nwrdc.fsu.edu to learn more about how you can benefit from our VaaS solution.
NWRDC ended its fiscal year with a positive balance. As a cost-recovery organization, our budgetary savings of $121,904 was returned to our customers in the form of credits or rate reductions for FY 2018-2019.

<table>
<thead>
<tr>
<th></th>
<th>BUDGETED</th>
<th>ACTUAL</th>
<th>OVER/UNDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Revenue</td>
<td>$ 17,839,350</td>
<td>$ 18,307,830</td>
<td>$ 468,480</td>
</tr>
<tr>
<td>Pass-through Expense Reclassification</td>
<td>(2,707,042)</td>
<td>(2,707,042)</td>
<td>-</td>
</tr>
<tr>
<td>Intrafund Transfers In</td>
<td>639,774</td>
<td>639,774</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Net Revenue:</strong></td>
<td><strong>$ 15,772,082</strong></td>
<td><strong>$ 16,240,562</strong></td>
<td><strong>$ 468,480</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>BUDGETED</th>
<th>ACTUAL</th>
<th>OVER/UNDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries &amp; Related Benefits</td>
<td>$ 5,523,951</td>
<td>$ 5,157,107</td>
<td>$ (366,844)</td>
</tr>
<tr>
<td>Other Personal Services</td>
<td>37,440</td>
<td>40,182</td>
<td>2,742</td>
</tr>
<tr>
<td>General Expenses</td>
<td>11,700,728</td>
<td>11,770,063</td>
<td>69,334</td>
</tr>
<tr>
<td>OCO</td>
<td>0</td>
<td>641,343</td>
<td>641,343</td>
</tr>
<tr>
<td>Auxiliary Fees</td>
<td>577,231</td>
<td>577,231</td>
<td>-</td>
</tr>
<tr>
<td>Intrafund Transfers Out</td>
<td>639,774</td>
<td>639,774</td>
<td>-</td>
</tr>
<tr>
<td>Pass-through Expense Reclassification</td>
<td>(2,707,042)</td>
<td>(2,707,042)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Expenses:</strong></td>
<td><strong>$ 15,772,082</strong></td>
<td><strong>$ 16,118,658</strong></td>
<td><strong>$ 346,576</strong></td>
</tr>
</tbody>
</table>

**INDIRECT COSTS (INCLUDED IN TOTAL EXPENSES)**

Percent of indirect costs to total direct cost. Rate applied to total expenses before indirect for each cost center.

<table>
<thead>
<tr>
<th></th>
<th>BUDGETED</th>
<th>ACTUAL</th>
<th>OVER/UNDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Indirect Costs</td>
<td>$ 1,616,684</td>
<td>$ 1,616,684</td>
<td>$ 0</td>
</tr>
</tbody>
</table>

**FY 2017-2018 Net Income/Loss**

<table>
<thead>
<tr>
<th></th>
<th>BUDGETED</th>
<th>ACTUAL</th>
<th>OVER/UNDER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total:</strong></td>
<td><strong>$ 0</strong></td>
<td><strong>$ 121,904</strong></td>
<td><strong>$ 121,904</strong></td>
</tr>
</tbody>
</table>
# FY 2017-2018 EXPENSES

<table>
<thead>
<tr>
<th>EXPENSE TYPE</th>
<th>BUDGETED</th>
<th>ACTUAL</th>
<th>% SPENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salaries and Benefits</td>
<td>$ 5,561,391</td>
<td>$ 5,197,289</td>
<td>93%</td>
</tr>
<tr>
<td>Salaries</td>
<td>5,523,951</td>
<td>5,157,107</td>
<td>93%</td>
</tr>
<tr>
<td>Other Personal Services (OPS)</td>
<td>37,440</td>
<td>40,182</td>
<td>107%</td>
</tr>
<tr>
<td><strong>General Expenses</strong></td>
<td><strong>$ 11,700,728</strong></td>
<td><strong>$ 11,770,063</strong></td>
<td><strong>101%</strong></td>
</tr>
<tr>
<td>Consulting Services</td>
<td>6,000</td>
<td>-</td>
<td>0%</td>
</tr>
<tr>
<td>Contractual Services</td>
<td>7,428,760</td>
<td>7,998,530</td>
<td>108%</td>
</tr>
<tr>
<td>Depreciation</td>
<td>253,547</td>
<td>384,146</td>
<td>152%</td>
</tr>
<tr>
<td>Freight and Postage</td>
<td>100</td>
<td>100</td>
<td>100%</td>
</tr>
<tr>
<td>Hardware Maintenance</td>
<td>511,268</td>
<td>672,623</td>
<td>132%</td>
</tr>
<tr>
<td>Insurance</td>
<td>43,192</td>
<td>24,105</td>
<td>56%</td>
</tr>
<tr>
<td>IT Supplies</td>
<td>160,686</td>
<td>36,336</td>
<td>23%</td>
</tr>
<tr>
<td>Memberships and Subscriptions</td>
<td>51,952</td>
<td>2,423</td>
<td>5%</td>
</tr>
<tr>
<td>Other Supplies</td>
<td>4,346</td>
<td>15,940</td>
<td>367%</td>
</tr>
<tr>
<td>Printing and Duplicating</td>
<td>11,025</td>
<td>5,614</td>
<td>51%</td>
</tr>
<tr>
<td>Rentals</td>
<td>64,264</td>
<td>61,580</td>
<td>96%</td>
</tr>
<tr>
<td>Repairs and Maintenance</td>
<td>285,544</td>
<td>229,853</td>
<td>80%</td>
</tr>
<tr>
<td>Software Maintenance</td>
<td>1,991,904</td>
<td>1,552,282</td>
<td>78%</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>333,553</td>
<td>319,981</td>
<td>96%</td>
</tr>
<tr>
<td>Travel and Training</td>
<td>96,313</td>
<td>44,836</td>
<td>47%</td>
</tr>
<tr>
<td>Utilities</td>
<td>458,274</td>
<td>425,867</td>
<td>93%</td>
</tr>
<tr>
<td><strong>Intrafund Transfers</strong></td>
<td><strong>$ 639,774</strong></td>
<td><strong>$ 639,774</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>Auxiliary Fees</strong></td>
<td><strong>$ 577,231</strong></td>
<td><strong>$ 577,231</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>Other Capital Outlay</strong></td>
<td><strong>-</strong></td>
<td><strong>$ 641,343</strong></td>
<td><strong>-</strong></td>
</tr>
<tr>
<td><strong>Pass-through Expenses</strong></td>
<td><strong>$ (2,707,042)</strong></td>
<td><strong>$ (2,707,042)</strong></td>
<td><strong>100%</strong></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$ 15,772,082</strong></td>
<td><strong>$ 16,118,658</strong></td>
<td><strong>102%</strong></td>
</tr>
</tbody>
</table>
Despite significant increases in expenses, NWRDC has kept its indirect rate under 13% for the last five years.
As NWRDC operates on a cost-recovery basis, neither our Charter nor Florida Statutes permit retention of financial surpluses. Our customers have benefitted from account credits and service rate reductions for over five years in a row.
A YEAR OF SUCCESS

Team Achievements

Storage Services

Fiscal Year 2017-2018 saw the continuing migration of our storage customers’ data from their older systems to NWRDC’s Storage as a Service (STaaS) environment. This greatly reduced our customers’ capital overhead while providing them enterprise-level storage at a competitive price-point.

The center awarded an ITN to ViON Corporation to replace the enterprise storage environment for our open systems customers. New Hitachi Vantara SAN arrays were installed at both the main Tallahassee, FL data center and our disaster recovery (DR) facility in Lithia Springs, GA. Outfitted with all-flash SSD drives, these arrays have improved storage speed and efficiency while reducing the overall monthly storage costs. Savings of nearly 60% were passed on to customers through this new solution. New reporting software procured through the ITN will also help to automate regular reporting for both billing and performance.

The team responded to nearly 400 requests to either implement new storage allocations or make changes to existing ones. The requests included the FC SAN zoning over multiple fabrics and the iSCSI or IP exports in customer environments. We also added over 100TB of new storage to accommodate the growing demand for DR services.

Storage Team members continued professional development in both storage-specific and data center-wide disciplines. Extensive knowledge transfer, research and training were involved in the implementation of the new SAN environments. Staff also attended courses on new storage technologies and gaining efficiencies through server OS environments. This ongoing training has allowed the team to maintain professional levels of support for our customers.

Recovery Services

The NWRDC Recovery Services Team successfully completed the on-boarding of numerous customers this year. We gained new city, county, local government and university customers, and grew our current state agency business. Three of our new customers will utilize on-site hardware to help manage their substantial local computing environment and utilize the center’s locations as replication targets. Other customers continue to use our more traditional deployment.

As part of our continuing improvements, the team also performed major system-wide version upgrades. These upgrades provided support for newly released OS, applications, and virtual environments. Major version releases are typically a very large undertaking requiring coordination of upgrades with all back-end equipment, client installed software, and remote replication equipment.
The migration to the new SAN reduced the physical footprint of the SAN in Tallahassee (approximately 800TB) from 6 full racks to 2 racks, one housing just a controller and the other housing a controller and disk arrays that are only half full.

The STaaS environment consists of a total of 1094.85TB of data.

This includes new customers that house on-site appliances. The local Avamar offering in Tallahassee and Atlanta grew an average of 26% over the same period. The BaaS environment houses approximately 91PB of data before deduplication and compression.

The CIS environment consists of 91 servers.

These servers act as both hosts for our virtual environment, housing approximately 750 virtual servers, and as physical servers for our customers in both Tallahassee and Atlanta.

The STaaS environment saw an increase of 295TB in total data stored post deduplication.

This includes new customers that house on-site appliances. The local Avamar offering in Tallahassee and Atlanta grew an average of 26% over the same period. The BaaS environment houses approximately 91PB of data before deduplication and compression.

The CIS environment consists of 91 servers.

These servers act as both hosts for our virtual environment, housing approximately 750 virtual servers, and as physical servers for our customers in both Tallahassee and Atlanta.

The STaaS environment consists of a total of 1094.85TB of data.

The migration to the new SAN reduced the physical footprint of the SAN in Tallahassee (approximately 800TB) from 6 full racks to 2 racks, one housing just a controller and the other housing a controller and disk arrays that are only half full.

Cloud Infrastructure Services

NWRDC upgraded its cloud infrastructure virtual environment, adding high availability to the management interface. The upgrade also added a simplified patch management system and an HTML5 interface. The virtual environments the team manages have been upgraded with these features as well.

In addition to management upgrades to the virtual environment, CIS has added a front-end cloud portal. This addition enhances the services provided by enabling self-managed customers to take advantage of the economy of scale achieved by the CIS virtual offering. The portal extends software-defined networking and data center features, allowing for the creation and self-management of the customer’s virtual data center, including load balancing, VPN, and firewall services in the NWRDC provided Cloud Infrastructure Service.

The CIS Team has completed the onboarding of two new virtual infrastructure customers utilizing the cloud portal, adding to those customers’ resiliency in a disaster. All upgrades have been applied to both our internal environment and our managed services customers. We continue to plan for future improvements.

SUSTAINED SERVICE AWARDS

Florida State University honored two NWRDC employees for their continued service:

Trenda Bradwell - 30 Years
Tim Brown - 10 Years
Managed Services

The Server Team was busy this year with several major projects:

**Infoblox**
The Server Team successfully migrated the Domain Name System (DNS) from Red Hat Linux servers to Infoblox appliances. This move provided one of NWRDC’s core services with both additional functionality and a more stable, supportable and secure platform. This will allow for consolidation and management of essential services such as DNS, DHCP and IP address management in a single platform that is managed through a common console for both the Tallahassee and Atlanta data centers.

**Enterprise Vault Upgrade**
Working with a customer’s DBA Team, the Server Team completed two primary steps towards upgrading the department’s Enterprise Vault environment. This application is primarily used for the archival of emails and public records searching. The environment has been migrated to a newer version of the application and SQL Server instance. The next steps will be to move the application to the latest version and to a newer O/S and virtual machine platform.
Department of Education DR Environment
The NWRDC Server, Network, CIS and Storage Teams worked together to engineer and implement the infrastructure for the Florida Department of Education (DOE)’s disaster recovery environment. This project has spanned several months with the final deployment to happen in FY 2018-2019. This project includes:

- A network redesign to allow connectivity between servers in both legacy MFN and FLR network spaces.
- The purchase and provisioning of several physical servers for database replication using Carbonite’s Double-Take Availability product.
- The creation and promotion of DR Domain Controllers
- Collaboration with the center’s CIS Team to design the virtual application replication environment utilizing Zerto’s Virtual Replication product.

In addition to these larger projects, the Server Team also revised patching schedules to provide customers with finite patching dates each month in lieu of dates dependent on Microsoft’s floating “Patch Tuesday”. We are also providing customers with more detailed and comprehensive information on all patches released and scheduled to be applied.

In addition to these activities, the Server Team also maintained a high level of incident, change request, and task completion.

- **6,204 INCIDENTS CLOSED**
  By all teams in both NWRDC and Customer ITSMs

- **1,925 CHANGE REQUESTS COMPLETED**
  By all teams in both NWRDC and Customer ITSMs

- **1,877 TASKS COMPLETED**
  By all teams in both NWRDC and Customer ITSMs
Mainframe Services

The Mainframe Team completed several projects this year. A new OSA-ICC console configuration was implemented, allowing for migration away from the old 2074 definitions. All three 2074 control units were decommissioned. A new Input/Output Configuration Data Set (IOCDS) was activated, adding Shadow Image Volumes on the VSP. Correlog zDefender and CICS upgrades were both installed in the Test LPAR. The DB2 Production Subsystem (DSN) was also updated. Numerous other software upgrades were performed, including:

- QMF
- ACF2
- Kommand
- VIRTEL
- Thruput Manager
- CA-1 Tape Management
- z/10 Microcode

Long-time employee Steve Menard presented the history of the mainframe as part of NWRDC’s Lunch and Learn series. The class was attended by both customers and staff members.
In May 2018, NWRDC transitioned Information Technology Service Management (ITSM) solutions, moving from RemedyForce to ServiceNow. This allowed NWRDC to build upon existing ITSM processes while leveraging the platform for process expansion and partner integration. Over 27,000 records from our previous system were added to a searchable archive within ServiceNow. Any records open at the time of transition were recreated in the new solution. This ensured our ability to support customers throughout the transition process.

The initial ServiceNow deployment was focused on the further development of our Incident and Change Management processes. New features already in development include: a service portal where customers can log in to submit a service request and track the life cycle of that request; a knowledge base full of informational and technical articles relative to our services; and the ability to request a quote for services. Additional features will be added over time.

Network Services

The Network Team successfully deployed two new edge routers in Tallahassee and Atlanta. This has reduced the load of the core switches by moving the BGP routing process to the new edge routers. The team also successfully migrated off the existing firewall pairs and moved the center’s firewall services on to a new layer 7 firewall platform which provides advanced packet inspection, IDS/IPS capabilities, and other enterprise functionality.

The Network Team was instrumental in the coordination of efforts in the Atlanta cage move. All NWRDC teams worked together to plan and implement the move of our infrastructure gear to a new cage in the Atlanta facility. This move was required to further NWRDC’s efforts towards gaining CJIS certification for the expansion of our infrastructure services. Although the move was accomplished in only two days, weeks of planning went into its success.

One of our team members completed training on the new Palo-Alto PAN OS Version 8 and successfully passed the new E-Council Network Defender Certification exam. The Network Team was also a part of a very successful proof of concept for the new V-Cloud Director Service. Working closely with our own Virtualization Team, we are now able to offer cloud services to our customers. We also have been able to better map-out our network’s topology, enhancing our ability to understand the networks our customers’ data traverses.