IT Services
Board Presentation
August 16th, 2023

SEE THE IMPACT

Harris County
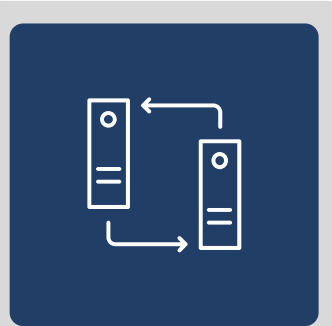Department of
Education

About Us:

Harris County
Department of
Education

WHO WE ARE

JAIME SALINAS

SERVICE DESK
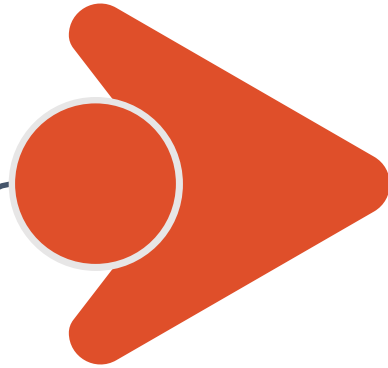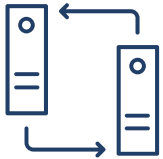
GEORGE HEMBREE

OPERATIONS SERVICES
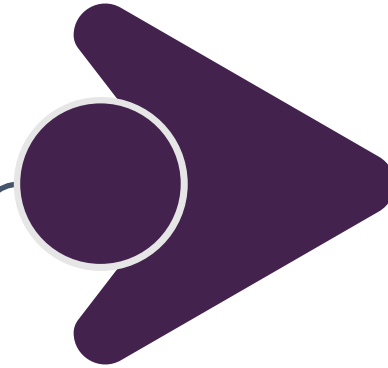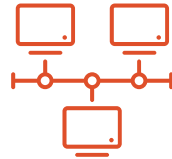
TIM DAVIS

APPLICATIONS
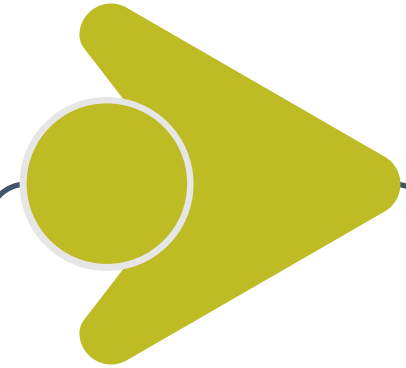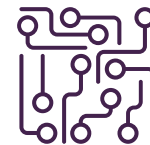
JOHN KRACHT

INFORMATION SECURITY

Services Provided

- Identity Management (UserID, Email, Permissions, Role-based Access control
- Internet access, local and metro-area-networks (IA, LAN, MAN)
- WiFi and 5G networks
- Facility technology support (Meeting and conference room Audio/Visual prep and event support)
- Construction support (Infrastructure standards development, vendor facilitation, quotes, network design architecture)
- In-house app development and COTS (Commercial-off-the-shelf) customization, workflow improvements, in-house app development, deployment, and support
- LMS and ERP support (Learning Management Systems, Enterprise Resource Planning, custom reports, dashboards)
- Technology and Application end user training
- Phone, remote, and deskside support
- Endpoint Management (Computer and device provisioning, support, security, configuration, and policy management)
- Information Security (Data Governance, Compliance, Security, and Policy)
- Process Improvement services to Divisions using industry-leading methodologies

Harris County Department of Education

SERVICES PROVIDED
SERVICE DESK

IT Services

FIRST-CONTACT IT SUPPORT
LEVEL I, II, & III CALLCENTER, PHONE, DESKSIDE, AND REMOTE TECHNICAL SUPPORT

EVENT SUPPORT
PROVIDE AUDIO/VISUAL AND EQUIPMENT SUPPORT FOR EVENTS, MEETINGS, AND CONFERENCES

TECHNOLOGY TRAINING
DEDICATED TECHNOLOGY CURRICULUM TRAINER PROVIDING APPLICATION, COMPUTER, AND PROCESS TRAINING TO EMPLOYEES

TECHNOLOGY QUOTE SERVICE
PROVIDE HCDE EMPLOYEES THE ABILITY TO MAKE PURCHASING DECISIONS VIA VENDOR QUOTE SERVICE

ENDPOINT MANAGEMENT
SUPPORT, PROVISION, DEPLOY, AND REMEDIATE ENDPOINT COMPUTERS AND DEVICES

FACILITY MOVE SUPPORT
FACILITATE THE MOVEMENT OF TECHNOLOGY ASSETS DURING PHYSICAL MOVES

01
02
03
04
05
06

SERVICES PROVIDED
OPERATIONS SERVICES

IT Services

IDENTITY MANAGEMENT

USER ID, EMAIL, PERMISSIONS, DATA GOVERNANCE, ROLE-BASED ACCESS CONTROLS

CONNECTIVITY

INTERNET ACCESS, LOCAL AND METRO-AREA NETWORKS, VIA FIBER, COPPER, WIFI AND 5G

FACILITY SUPPORT

MEETING AND CONFERENCE ROOM SCHEDULING SYSTEMS, WORKSPACE MANAGEMENT SYSTEMS

CONSTRUCTION SUPPORT

STANDARDS DEVELOPMENT, VENDOR FACILITATION, NETWORK ARCHITECTURE/DESIGN AND IMPLEMENTATION
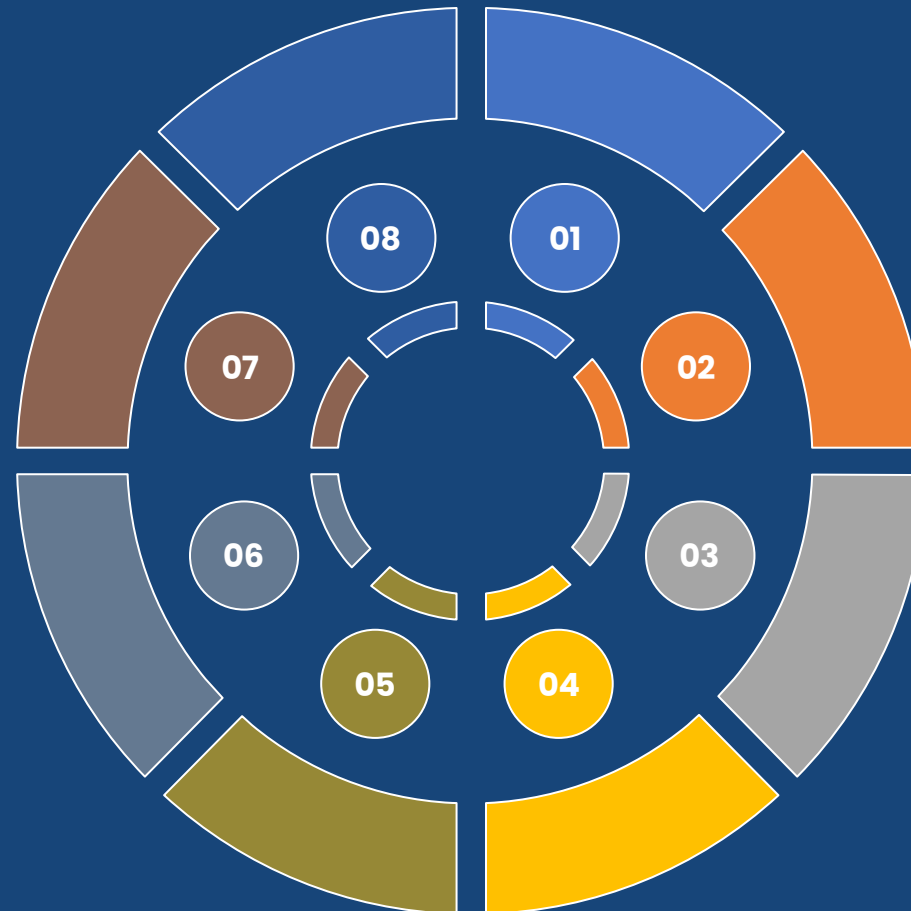
24/7/365 DATACENTER

REAL-TIME OPERATIONS SUPPORT, NETWORK, POWER, AND COOLING SYSTEMS MONITORING AND SUPPORT

E-RATE MANAGEMENT

LEVERAGING USAC E-RATE FUNDS FOR CAMPUS CONNECTIVITY AND NETWORK EQUIPMENT COSTS

COMPUTE

MAINTAIN AND SUPPORT OVER 250 ON-PREMISES AND CLOUD-BASED SERVERS AND WORKLOADS

CLOUD CAPABILITY

BALANCE THE RELATIVE SECURITY OF CLOUD SERVICES WITH ON-PREMISES AGILITY AND COST EFFICIENCY IN A HYBRID CAPACITY

01 02 03 04 05 06 07 08

SERVICES PROVIDED
INFORMATION SECURITY

IT Services

INFORMATION AND ACCESS SECURITY
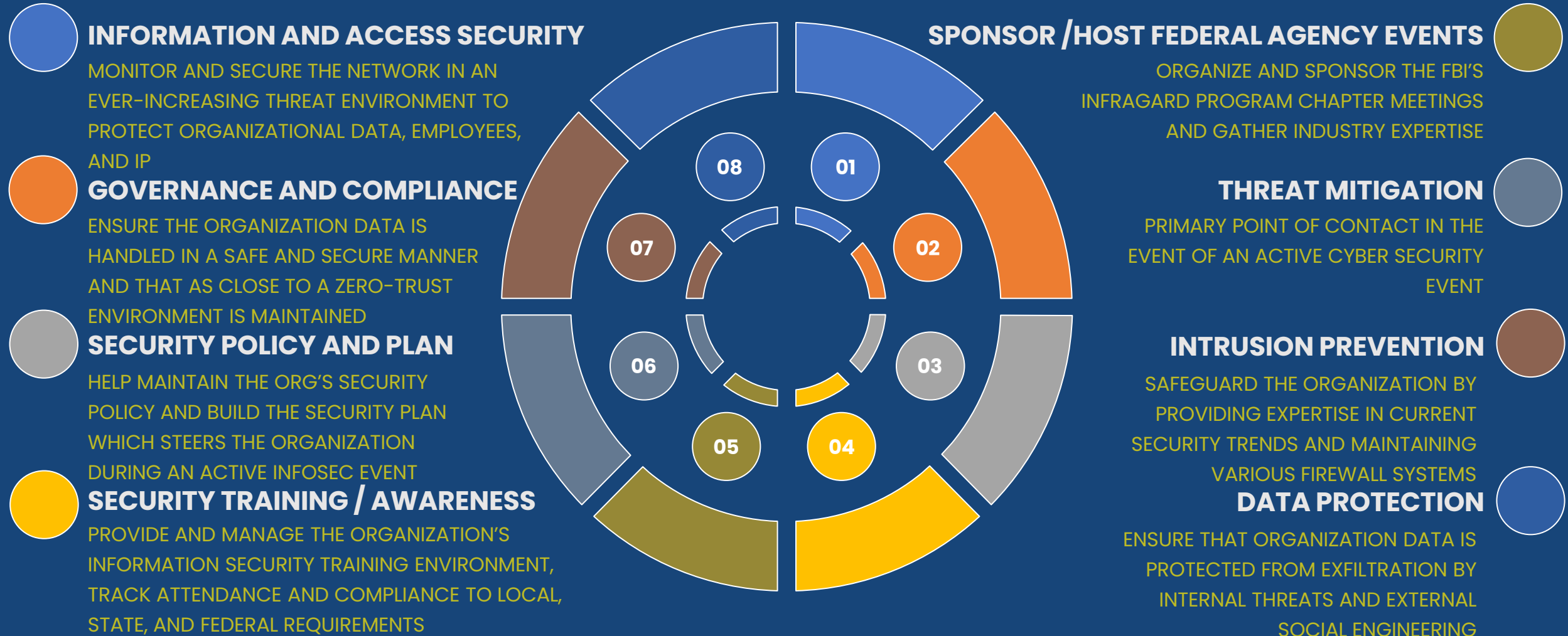MONITOR AND SECURE THE NETWORK IN AN EVER-INCREASING THREAT ENVIRONMENT TO PROTECT ORGANIZATIONAL DATA, EMPLOYEES, AND IP

GOVERNANCE AND COMPLIANCE
ENSURE THE ORGANIZATION DATA IS HANDLED IN A SAFE AND SECURE MANNER AND THAT AS CLOSE TO A ZERO-TRUST ENVIRONMENT IS MAINTAINED

SECURITY POLICY AND PLAN
HELP MAINTAIN THE ORG'S SECURITY POLICY AND BUILD THE SECURITY PLAN WHICH STEERS THE ORGANIZATION DURING AN ACTIVE INFOSEC EVENT

SECURITY TRAINING / AWARENESS
PROVIDE AND MANAGE THE ORGANIZATION'S INFORMATION SECURITY TRAINING ENVIRONMENT, TRACK ATTENDANCE AND COMPLIANCE TO LOCAL, STATE, AND FEDERAL REQUIREMENTS

SPONSOR /HOST FEDERAL AGENCY EVENTS
ORGANIZE AND SPONSOR THE FBI'S INFRAGARD PROGRAM CHAPTER MEETINGS AND GATHER INDUSTRY EXPERTISE

THREAT MITIGATION
PRIMARY POINT OF CONTACT IN THE EVENT OF AN ACTIVE CYBER SECURITY EVENT

INTRUSION PREVENTION
SAFEGUARD THE ORGANIZATION BY PROVIDING EXPERTISE IN CURRENT SECURITY TRENDS AND MAINTAINING VARIOUS FIREWALL SYSTEMS

DATA PROTECTION
ENSURE THAT ORGANIZATION DATA IS PROTECTED FROM EXFILTRATION BY INTERNAL THREATS AND EXTERNAL SOCIAL ENGINEERING

APPLICATION DEVELOPMENT

WHEN FEASIBLE, DESIGN, BUILD, IMPLEMENT, AND SUPPORT CUSTOM APPLICATIONS

ERP (E-FINANCE) SUPPORT

DEDICATED SUPPORT FOR THE ORGANIZATION'S ENTERPRISE RESOURCE PLANNING TOOL

SOLUTIONS DELIVERY

WHERE FEASIBLE, CUSTOMIZE OFF THE SHELF APPLICATIONS TO SUIT A DIVISION'S NEEDS AND PROVIDE SUPPORT

HR INFORMATION SYSTEM (HRIS)

PROVIDE DEDICATED HUMAN RESOURCES SYSTEMS SUPPORT
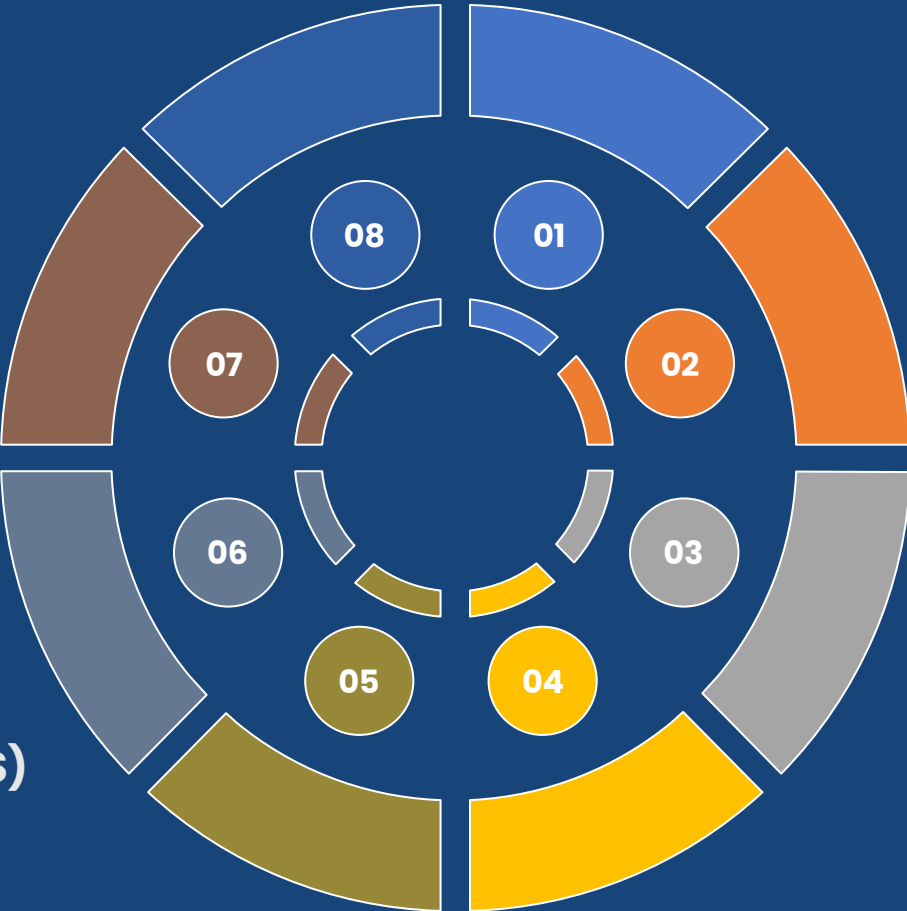
PROCESS IMPROVEMENT

MANAGE THE ORGANIZATION'S PROCESS IMPROVEMENT INITIATIVES VIA DEDICATED COORDINATOR

LEARNING MANAGEMENT SYSTEM (LMS)

IMPLEMENT AND SUPPORT THE VARIOUS LMS IN THE ORGANIZATION, PROVIDING INTERNAL AND EXTERNAL VALUE TO LEARNERS AND EDUCATORS

DATABASE MANAGEMENT

MAINTAIN AND SAFEGUARD THE ORGANIZATION'S VARIOUS DATASETS, DATABASES, AND DATA LAKES

WEB APP MANAGEMENT

BUILD AND DEPLOY STANDARD AND CUSTOM WEB APPS IN THE CLOUD FOR DIVISIONS

01 02 03 04 05 06 07 08

SERVICES PROVIDED
PROJECT MANAGEMENT OFFICE (COMING MARCH, 2024)

PROJECT PORTFOLIO MANAGEMENT

ORGANIZE, PLAN, AND SOCIALIZE EXISTING AND FUTURE PROJECTS VIA A COHESIVE, STANDARDIZED PROJECT CATALOG

PROJECT GOVERNANCE

ENSURE THAT LIMITED AND PRECIOUS RESOURCES ARE UTILIZED AND SCHEDULED WITH INPUT FROM STAKEHOLDERS AND ELT

PROCESS IMPROVEMENT

INCORPORATE INDUSTRY-LEADING PROCESS METHODOLOGIES WHERE FEASIBLE, AND DOCUMENT EXISTING PROCESSES TO FIND EFFICIENCIES IN WORK

PROVIDE MORE VALUE TO THE ORG

WILL SET AND DETERMINE STANDARDS, PROVIDE GUIDANCE, SHARE RESOURCES, AND ALIGN PROJECTS WITH STRATEGY
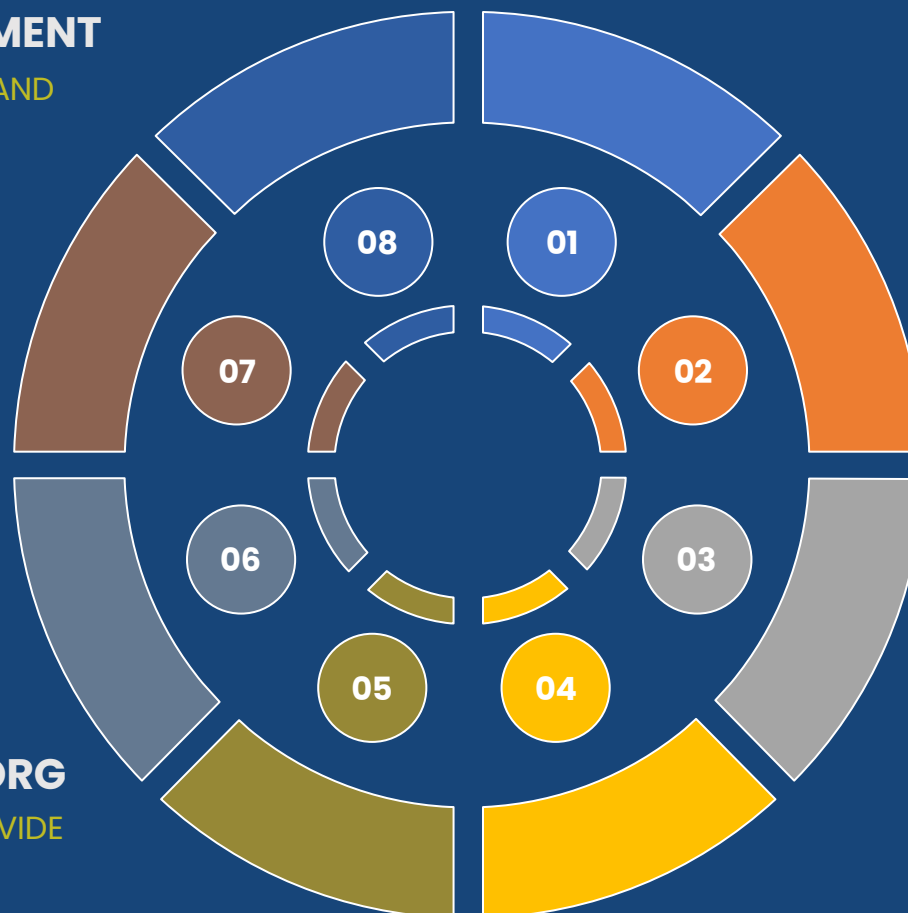
COMMON PROJECT CULTURE

ESTABLISH A COMMON CULTURE THROUGH COMMUNICATION AND TRAINING TECHNIQUES AS WELL AS INDUSTRY STANDARDS

RESOURCE MANAGEMENT

MANAGE AND ALLOCATE RESOURCES ACROSS PROJECTS BASED ON PRIORITIES, SCHEDULES, BUDGETS, AND GOVERNANCE

ACCOUNTABILITY

MANAGE DOCUMENTATION, PROJECT HISTORY, ORGANIZATIONAL KNOWLEDGE, AND TRACEABILITY

PMO SOFTWARE

DEVELOP AND IMPLEMENT THE PMO'S REAL-TIME PRIMARY SOFTWARE APPLICATION AND ITS METHODOLOGY

01 02 03 04 05 06 07 08

DATA HIGHLIGHTS

IT Services

SERVICEDESK INCIDENT TICKETS RECEIVED LAST 365 DAYS

9968

CUSTOMER SATISFACTION BASED ON 277 RESPONSES
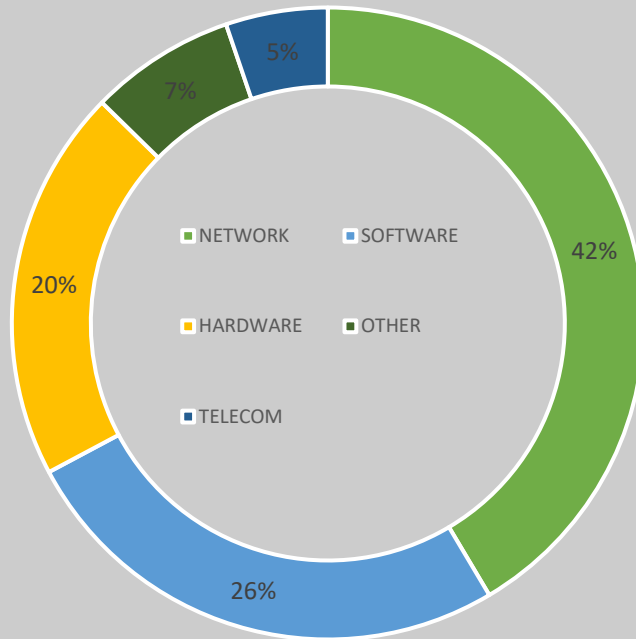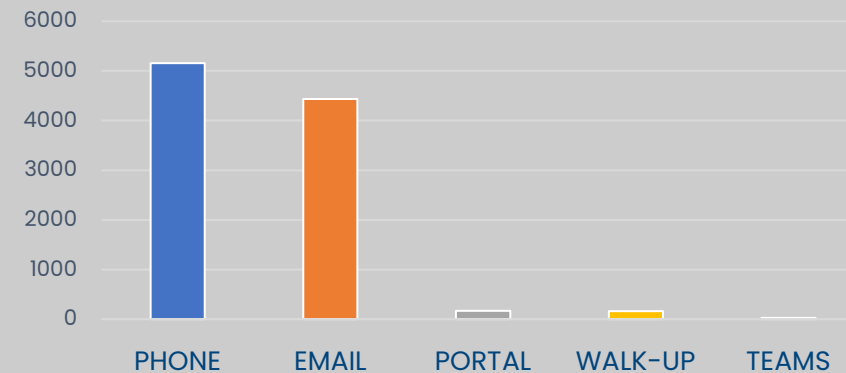
97.2%

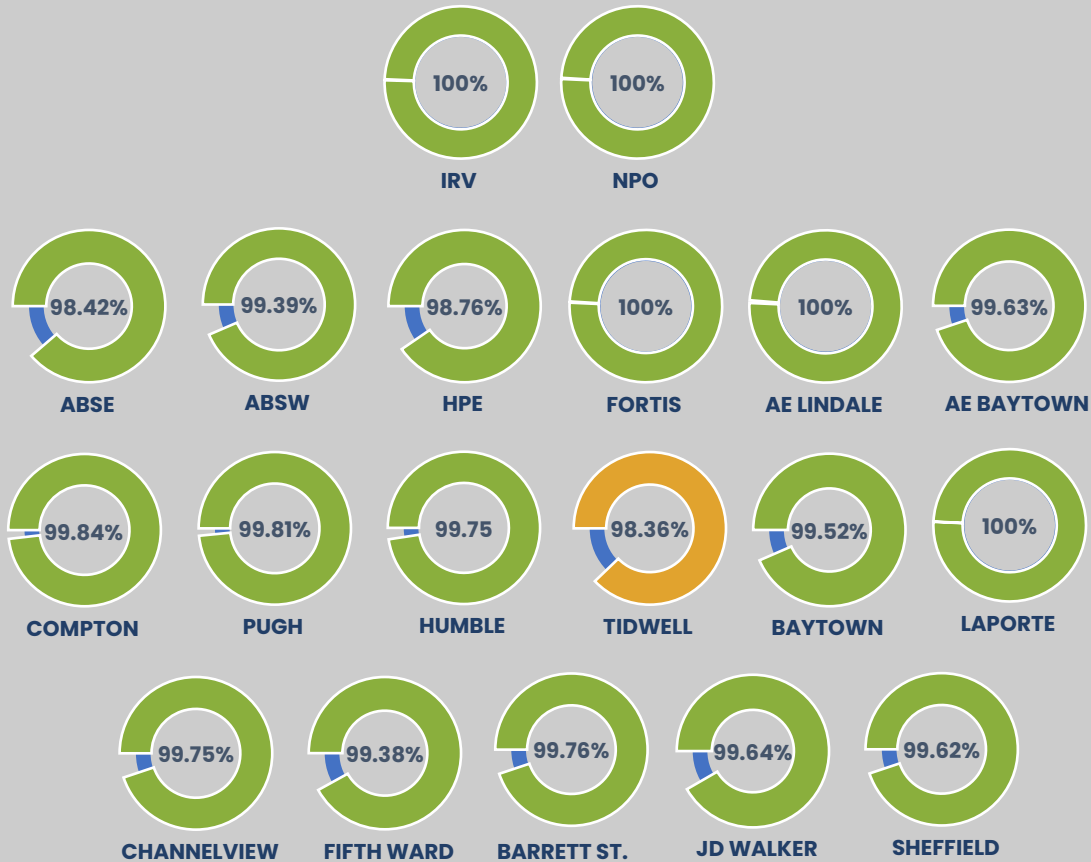**FIRST CONTACT RESOLUTION RATE**

92.83%

TICKETS BY CATEGORY

- NETWORK
- SOFTWARE
- HARDWARE
- OTHER
- TELECOM

5%
7%
20%
42%
26%

TICKETS RECEIVED BY SOURCE

6000
5000
4000
3000
2000
1000
0

PHONE EMAIL PORTAL WALK-UP TEAMS

DATA HIGHLIGHTS

IT Services

NETWORK AVAILABILITY BY SITE LAST 365 DAYS

100% IRV	100% NPO

98.42% ABSE	99.39% ABSW	98.76% HPE	100% FORTIS	100% AE LINDALE	99.63% AE BAYTOWN

99.84% COMPTON	99.81% PUGH	99.75 HUMBLE	98.36% TIDWELL	99.52% BAYTOWN	100% LAPORTE

99.75% CHANNELVIEW	99.38% FIFTH WARD	99.76% BARRETT ST.	99.64% JD WALKER	99.62% SHEFFIELD

CRITICAL SYSTEMS AVAILABILITY LAST 365 DAYS

100% INTERNET/VPN	99.99% FIREWALL	100% IP MANAGEMENT	99.99% PHONE SYSTEM/PBX

100% DATACENTER POWER/UPS	100% DATACENTER NETWORK-IRV	100% DATACENTER NETWORK-NPO
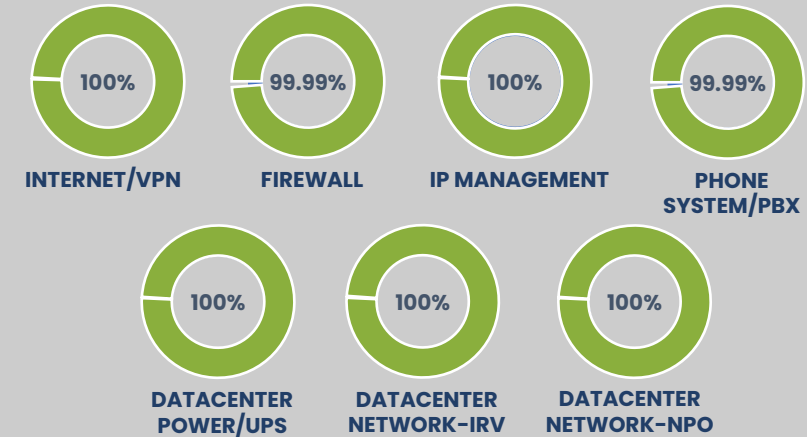
AVAILABILITY ASSUMPTIONS:
ASSUME 24X7X365 REQUIREMENT
THEN WORST PERFORMING SITE:
98.36% =
DAILY: 23M 37S
WEEKLY: 2H 45M 19S
QUARTERLY: 1D 11H 38M 41S
YEARLY: 5D 22H 34M 43S

VS

AVAILABILITY ASSUMPTIONS:
ASSUME 24X7X365 REQUIREMENT
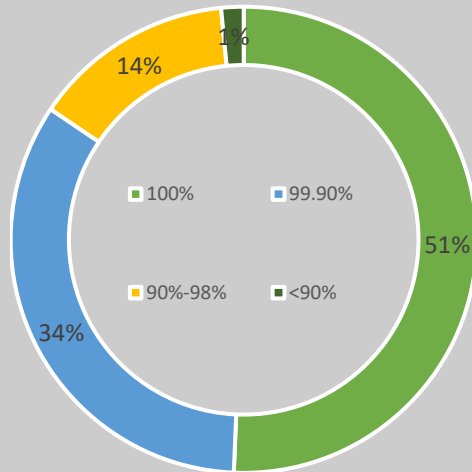**AVAILABILITY GOAL:**
99.99% =
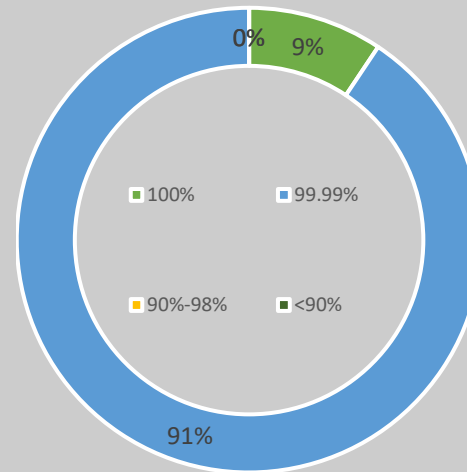DAILY: 8.6S
WEEKLY: 1M .48S
QUARTERLY: 13M 2.4S
YEARLY: 52M 9.8S

DATA HIGHLIGHTS

IT Services

ON-PREMISES SERVER UPTIME

- 100%
- 99.90%
- 90%-98%
- <90%

1%
14%
51%
34%

CLOUD-BASED SERVER UPTIME

- 100%
- 99.99%
- 90%-98%
- <90%

0%
9%
91%

99.2%

EFINANCE CLUSTER AVG AVAILABILITY

AVAILABILITY ASSUMPTIONS:
ASSUME 24X7X365 REQUIREMENT
THEN WORST PERFORMING:
99.20% =
DAILY: 11M 31S
WEEKLY: 1H 20M 38S
QUARTERLY: 17H 23M 16S
YEARLY: 2D 21H 22M 2S

HIGHEST NUMBER OF CONCURRENT WIFI –CONNECTED GUESTS
679

**WIFI DATA USAGE:
HCDE-EMPLOYEES (LAST MONTH)**
4.88 TB

**NETWORK DATA USAGE:
ETHERNET (LAST 6 MONTHS)**
131 TB

**WIFI DATA USAGE:
HCDE-GUEST (LAST MONTH)**
1.34 TB

DATA HIGHLIGHTS

IT Services

PROJECTS IN PROGRESS

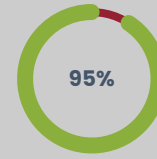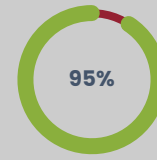| **64** 2022-23 Active Projects for Divisions	**21** 2022-23 Division Projects Completed	**43** 2022-23 Division Projects Carried Over
19 2023-24 Active Projects for Divisions	**0** 2023-24 Division Projects Completed	**0** 2023-24 Division Projects Carried over
68 2022-24 Active Internal IT Projects	**13** 2022-24 Internal IT Projects Completed	**18** 2022-24 Internal IT Projects not Started or P.O.C.

CURRENTLY ACTIVE PROJECTS
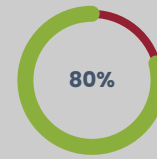
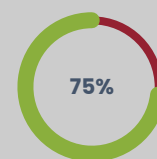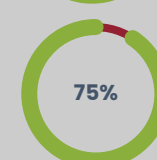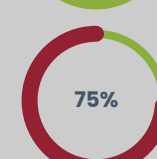| 95% EMPLOYEE RECORDS	50% ENROLLMENT EXPRESS
95% PERFORM	50% SCHOOLOGY LMS
80% CLIENT ASSESSMENT	30% PCARD PROCESS MAPPING
75% CRYSTAL REPORTS UPDATE	30% CP PROCESS IMPROVEMENT
75% LOGI SERVER UPDATES	5% PROFESSIONAL LEARNING
75% UNIFIED INSIGHTS (ON HOLD)	5% LASERFICHE FORMS (MULTIPLE)
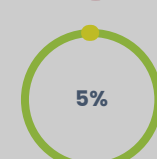
DATA HIGHLIGHTS

IT Services

MICROSOFT SECURE SCORE (HCDE)
71.5%

MICROSOFT SECURE SCORE (OTHER SLED)
42.8%

SECURITY ACTIONS (LAST 30 DAYS)

6700
Attacks blocked via security policy

98.78%
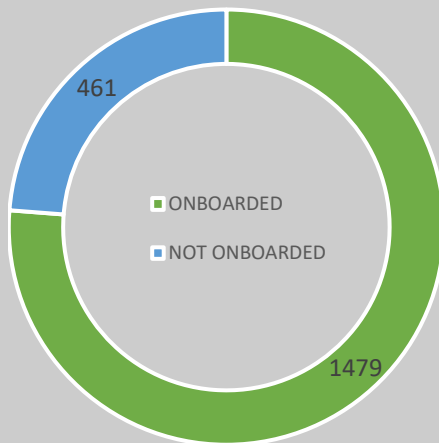Protection against phishing attacks

SECURITY ACTIONS/INVESTIGATIONS TAKEN IN LAST 6 MONTHS
1565

500
URL's blocked across 2 restricted categories

83.33%
Protection against ransomware

DEVICES ONBOARDED ONTO SECURITY SYSTEM

461

1479

- ONBOARDED
- NOT ONBOARDED

CURRENT THREAT TAXONOMY (LAST 24HRS)

42

62

95

41

- RANSOMWARE
- PHISHING
- ACTIVITY GROUP
- VULNERABILITY

71
Messages reported by users

1479
Devices protected/monitored by security policy

DATA HIGHLIGHTS

EMAIL STATISTICS (LAST 90 DAYS)

|		
1,713,445 Total Inbound Emails	**138,053** Outbound Emails	**285,843** Inbound Spam-blocked Emails
1,100,361 Emails Processed	**764,547** Inbound Emails Delivered	**40,230** Inbound Phishing-blocked Emails
613,084 Emails Edge-blocked	**4,619** Outbound Emails Blocked	**4,791** Inbound Detonation-blocked Emails

PHISHING / MALWARE CAMPAIGN ORIGINS (LAST 30 DAYS)
121 PHISHING / 907 MALWARE
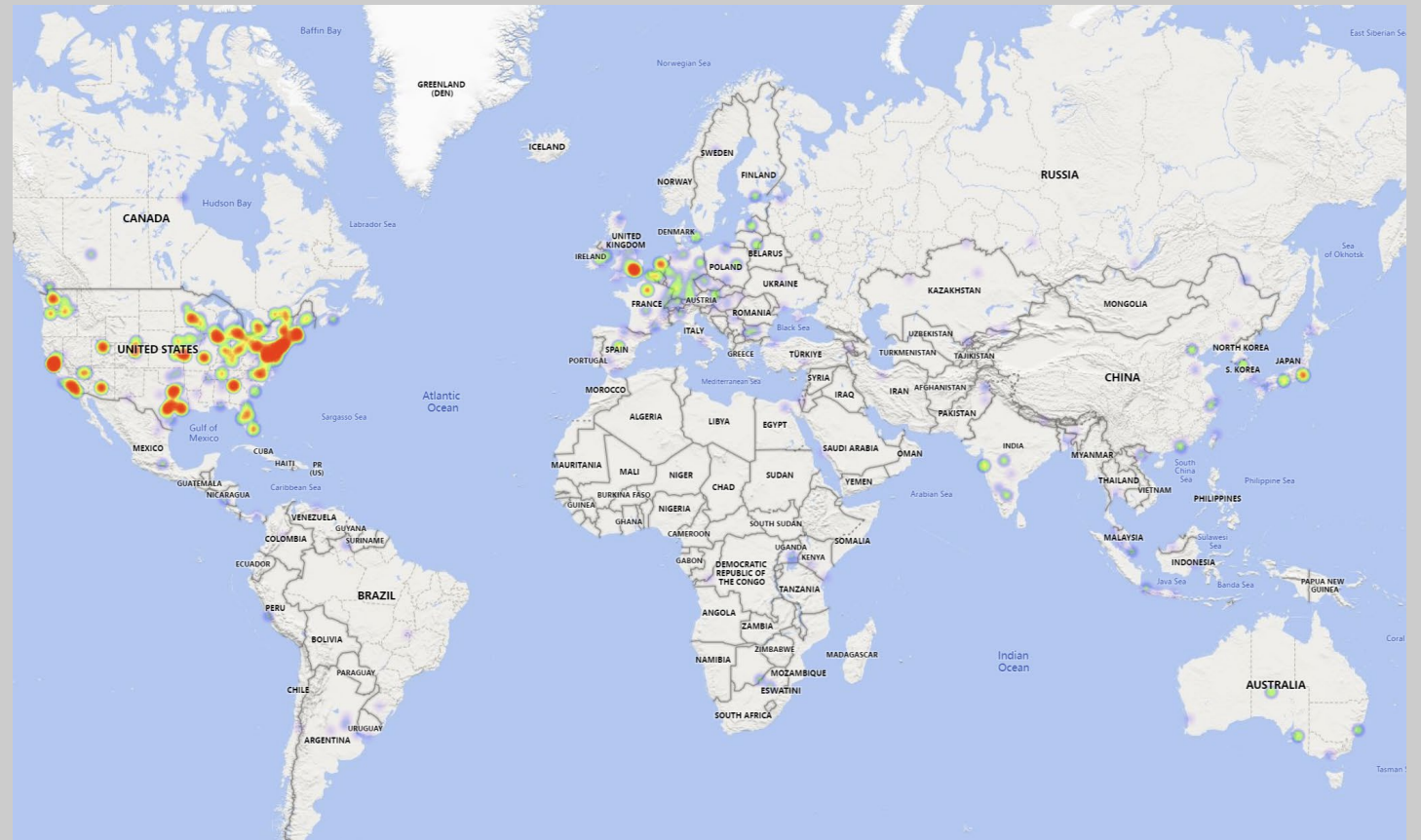
Key Highlights (different than outcomes – show size and scope)

- 99.99% Combined uptime across all critical network links and connections in the past 365 days
- Based on ServiceDesk surveys sent after every incident resolution, 97.2% of customers are happy with services provided. 1.4% are neutral, and 1.4% are unhappy
- Implementation of near-paperless HR with Applicant tracking/Employee Records, and new Perform evaluation system
- Talent retention via mild reorganization of the IT Division
    - Opportunities were made this year by creating leadership positions in ServiceDesk and Operations Services for employees to aspire to and provide career pathways
    - Focus on recruiting and promoting from within whenever feasible
- Provide the ability to learn, upskill, and cross-train across disciplines to "un-silo" roles and make more adaptable and dynamic teams
- Leverage E-Rate to right-size our infrastructure, doubling our access to bandwidth, and providing critical infrastructure to campuses.
    - Enable students and educators to access the latest technology available

Harris County Department of Education

Key Highlights (different than outcomes – show size and scope)

- Further reduction of single points of failure. The culmination of which will be a real-time "instant-on" failover to secondary site/s and to the cloud; of all critical systems and applications. (We are 75% of the way there)
- Implementation of process improvement projects
  - Several divisions on board already
  - Will analyze/improve internal IT processes as time permits
- Implementation of dedicated IT Trainer with curriculum development experience
  - Resumption of in-person new hire orientations
  - Weekly lunch and learn sessions
  - Custom content and app-specific training for divisions

Harris County Department of Education

Trends

- Product Management vs Project Management
- Establishing value streams to better support divisions
- RFID-based asset tracking and management
- AI and Machine/Deep Learning-based tools and applications
- Accountable Autonomy
- Adaptive talent strategy recruits for:
  - Anticipated need
  - Professional/Personal growth
  - Overlapping skills
  - Embedded learning in backlogs
- Longer retention of hardware when possible; longer refresh periods being necessary to offset global supply constraints causing unnecessary backlogs.
  - Plan technology purchases with a 9-12 month anticipated lead time

SEE THE IMPACT

Questions?

Harris County
Department of
Education