

UNIVERSITY OF ILLINOIS SYSTEM - AITS

Disaster Recovery Program Update

December 2, 2022

Caffeine Break

Disaster Recovery Updates

Agenda:

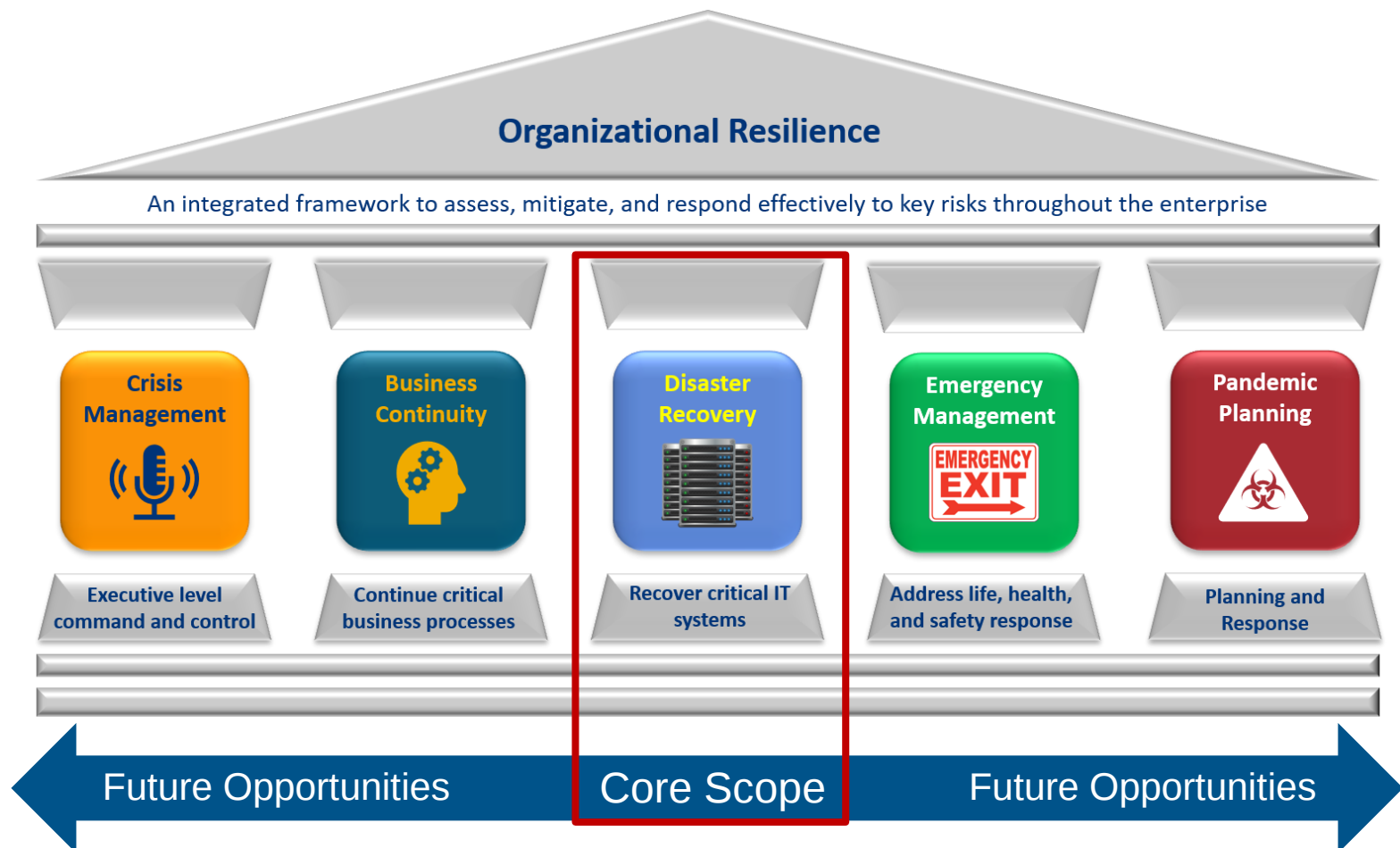
- DR Program Update
 - DR Activities
 - Rapid Failover and Recovery
 - Questions
-
- Tabletops
 - BCP
 - Questions

DISASTER RECOVERY PROGRAM UPDATE

Alice Jones – Steve Krause

Disaster Recovery Context & Scope

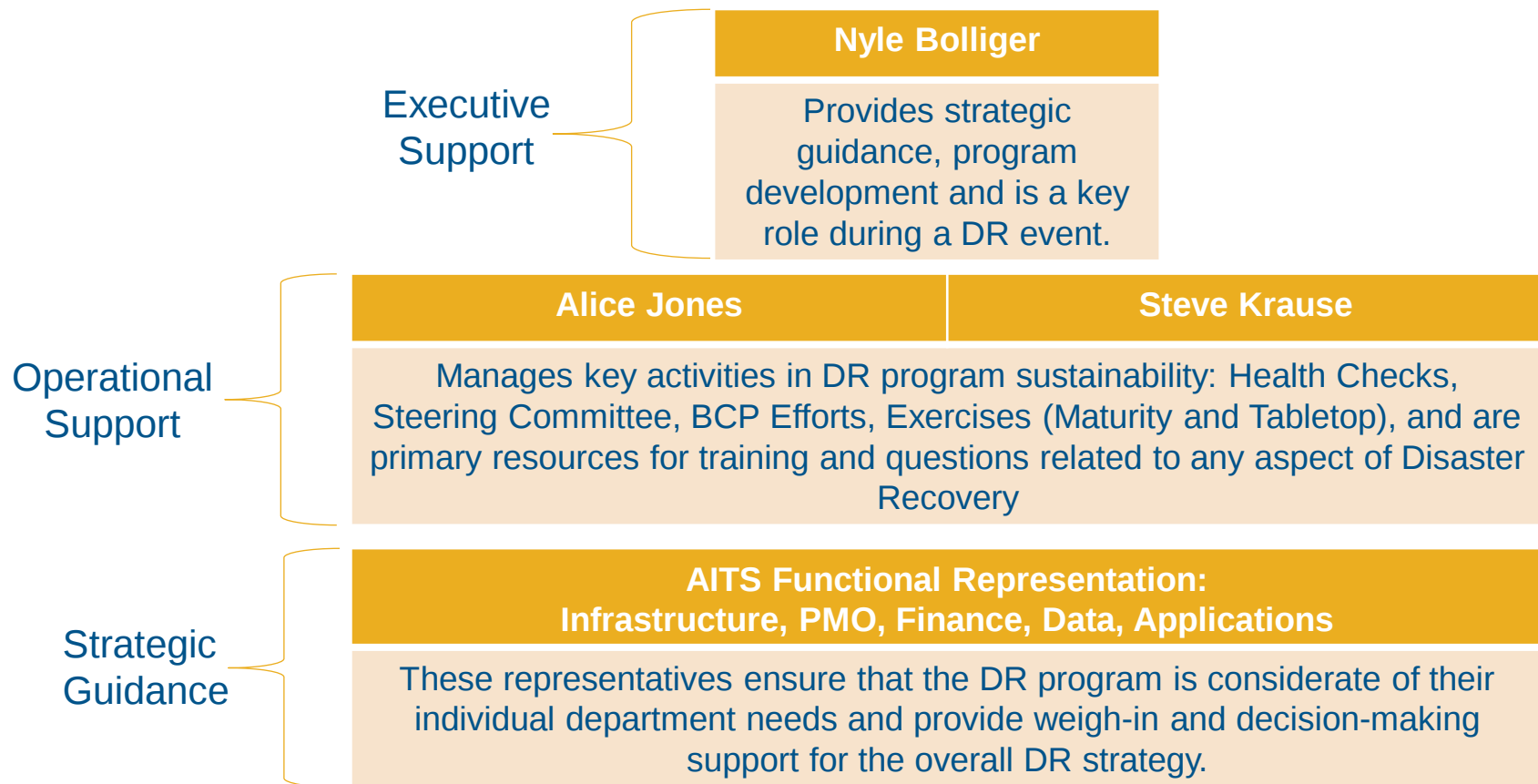
AITS has endeavored to elevating its organizational resilience posture beginning with the development of a DR program, and then identifying opportunities across other dimensions.



DR Program Components

Key People and Roles

The DR Program is led by Nyle Bolliger and supported by two DR Coordinators. This team is supported by additional key roles for feedback and program support.





DR ACTIVITIES

2022 Activities

Activity	Information
DR Program Review	• AITS Leadership Governance • Defined Processes
Tabletop Exercises	• HAB Unexpected Outage Practice Event on September 22, 2022
Stakeholder Information Sharing	• AITS Brownbag • UIUC Caffeine Break (UIS and UIUC are included) • UIUC and Technology Services • UIC and Technology Solutions
DR Hardware Infrastructure Build	• Implement Hardware • Isolated Environment
HAB Generator Testing (Phase 1)	• Collaboration with HAB Data Center Staff (Technology Services)
New AITS Backup Solution	• Cyber Recovery • Ransomware • Procured by the end of 2022

2023 Activities

Activity	Information
Tabletop Exercises	• Calling a DR Event
DR Production Failover Exercise	• Production running in HAB from February 11-12, 2023
HAB Generator Testing (Phase 2)	• Collaboration with HAB Data Center Staff (Technology Services)
Implement Backup Solution	• Cyber Recovery • Ransomware • UIC, UIS, and UIUC locations
RRB Power Upgrade	• Summer of 2023

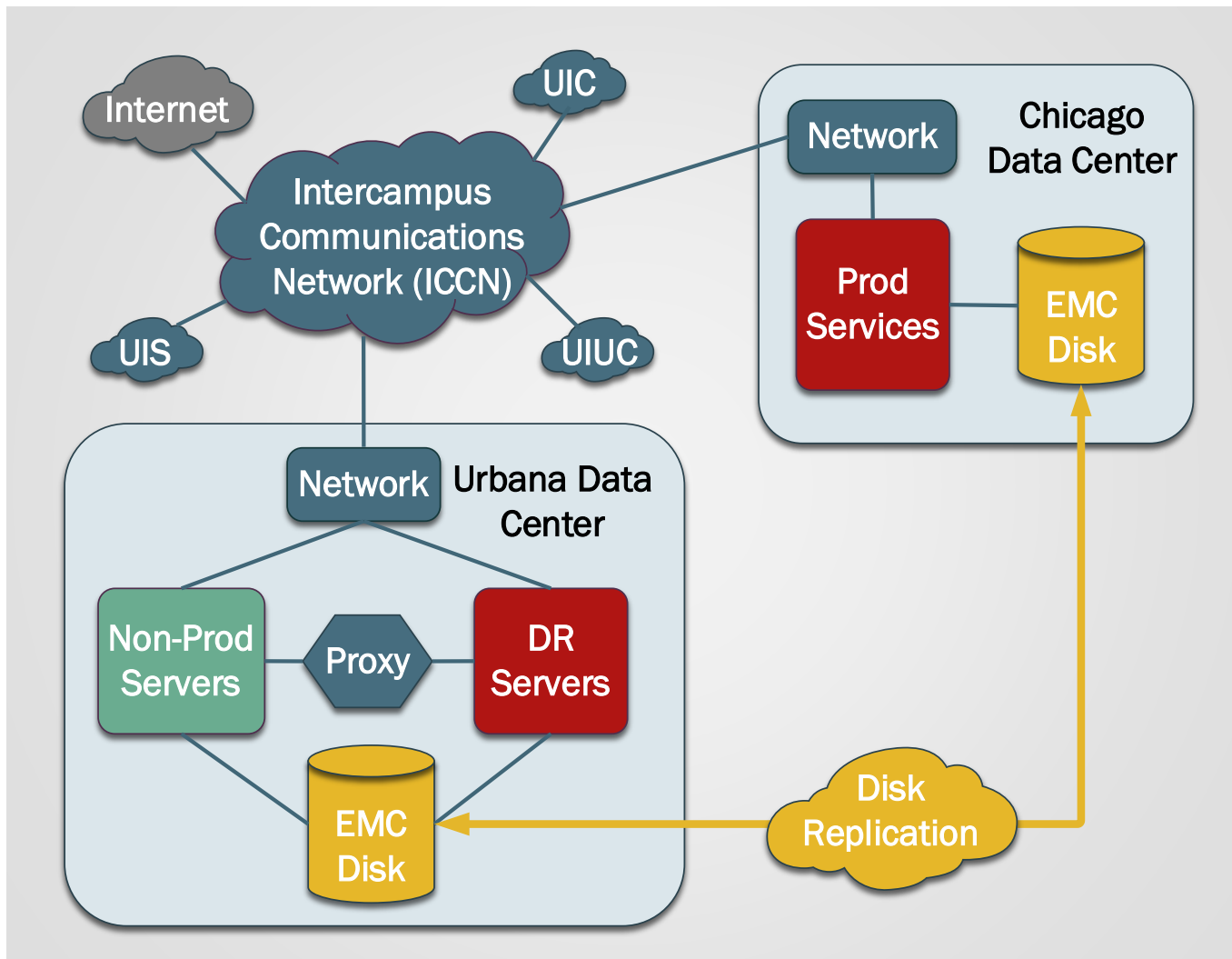


RAPID FAILOVER & RECOVERY PROJECT

Jody Groff – Project Manager

Chris Barton – Failover Architecture

Production Failover Architecture

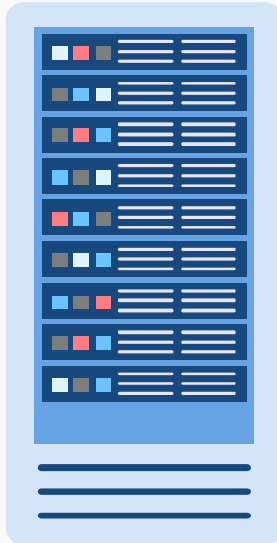


Production Storage Replication

Enterprise Systems from Chicago to Urbana

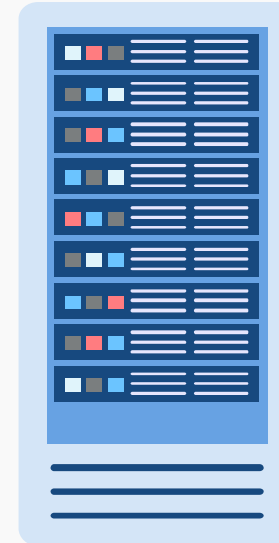
RRB

Primary Site



HAB

Secondary Site



Administrative Network

EMC/DELL SRDF
Replication Software

24^{*}
hours

** After decision has been made to failover.*

AITS Communications

Summary of Work:

AITS is working on a plan to run production services from the Disaster Recovery environment in HAB during the weekend of 2/11-2/12/2023.

Impacted Audience:

All clients of AITS maintained production services running out of the RRB datacenter.

Impact of Work:

Services will experience approximately six hours of downtime on Saturday morning 2/11 when they are moved from RRB to HAB, and another six hours of downtime on Sunday when they are moved back to RRB. Highly available services such as SiteMinder authentication, Identity and Access Management (IAM) will remain online during the failovers. Additional communications will be sent to impacted clients prior to the event. Please contact the AITS Service Desk with any questions.

Event Start: 02/11/2023 06:00 AM

Event End: 02/12/2023 06:00 PM

Affected Systems/Services:

All production services running out of RRB, Production AITS Linux Servers, Production AITS Solaris Servers, Production AITS Windows Servers, RRB datacenter

Affected Campus:

Chicago, Springfield, Urbana-Champaign

Some of the Impacted Services Include

- All services hosted on AITS maintained production Solaris, Linux, and Windows servers
- AITS Chicago VPN
- AITS Web Services
- Applications Manager (Appworx) production batch processing
- Banner Administrative Pages
- Banner Document Management Services (BDMS-BXS)
- Banner Reporting Database (REPTPROD)
- Banner Self-Service
- Business Objects - Eddie
- Campus portal sites - my.uic, my.uillinois, my.uis
- Cashiering System (NelNet NBS)
- HR Front End
- myDisclosures
- myFCOI Checklist
- myProposals
- myResearch Portal
- My UI Info
- Technology Services Endpoint Services Munki Mac Endpoint Management
- uAchieve
- UI New Hire

Additional Info for Banner Upgrades

ITS Web Services, Applications Manager (Appworx) production batch processing, Astra Schedule, Axiom Elite, Banner Administrative Pages, Banner Event Application (BEA), Banner Self-Service, BDM-Xtender imaging, Campus Charitable Fund Drive Application (CCFD), Cashiering System (NelNet NBS), Clean Address, Cross FOAPAL, Deduction Applications, DELTA Award, Employment Verification System (EVS), FABWEB, FCPWEB, Federal Methodology Needs Analysis (FMNA), FormFusion Evisions, HR Front End, HR Reporting Portal, HRIT Security Application, HRNET Batch Processes, HRNET Online Training Framework, HRPAY Tools (NEWT), iBuy, My UI Info, myDisclosures (COI), myDisclosures Batch Process (RNUA), myProposals (Kuali Coeus), myResearch Portal (piPortal), OCR for AnyDocs, Parameter Editor, PARIS, Pcard, Personnel Registry Management System (PRMS), Quikpay, Retiree Rehire System, Security Application, SOEEA Time Reporting, TCARD, Travel and Expense Management (TEM), UI New Hire, UI Verify Enrollment Code Generator (Verify), University Codebook

Solaris/Linux/Oracle

Academic Vacation and Sick Leave (AVSL), AITS - LDAP, AITS Chicago VPN, AITS supported production messaging infrastructure, AITS Web Services, Allocations and Assessments (ALAS), Applications Manager (Appworx) production batch processing, Appslogin, Archive server, Astra Schedule, Attribute Maintenance System, Axiom Elite, Banner Administrative Pages, Banner Document Management Services (BDMS-BXS), Banner Event Application (BEA), Banner Reporting Database, Banner Self-Service, BannerRequestGateway, Business Objects - Eddie, Campus Charitable Fund Drive Application (CCFD), Campus portal sites, Cashiering System (NelNet NBS), Catalog Publish, CFO System Trends and Stats, Chrome River Integrations, Clean Address, College of Med Continuing Med Edu database, Cornerstone Integrations, Course Applicability System (CAS-u.select), Cross FOAPAL, DARwin, Data Warehouse Processing (ETL), Decision Support Password Management, Decision Support USC Requests, Deduction Applications, Diploma File Extract Distinctions, Diplomatic Departmental Distinctions, Document Direct for the Internet (DDI), Einvoice, Employment Verification System (EVS), Enterprise Data Warehouse (EDW), Ethics Office Reporting Application, Expected Graduation Date Application, FABWEB, FCPWEB, Federal Methodology Needs Analysis (FMNA), FOAPAL Front End, FormFusion Evisions, Grants and Contracts Applications, GrayBook, HireTouch, HR Front End, HR Reporting Portal, HRPAY Tools (NEWT), iBuy, ICES (Instructor and Course Evaluation System), Identity and Access Management Support Application (ISA), Illinois Contract System (ICS), Informatica batch processes, Institutional Research database, Integration for E-Procurement, Intellectcheck, Involuntary Deduction, Jaggaer Integrations, K2, Kafka, MDT database, Messaging SonicMQ Pub-Sub Brokers, Mobius View, My UI Financials (MyFi), My UI Info, my.uic, my.uillinois, my.uis, myDisclosures (COI), myDisclosures Batch Process (RNUA), myFCOI Checklist (COI), myProposals (Kuali Coeus), myResearch Portal (piPortal), National Student Clearinghouse (NSC) Batch, Nelnet Business Systems (NBS), New Hire Claiming process, OCR for AnyDocs, Office of Equal Opportunity and Access online training system, Oracle GoldenGate, Parameter Editor, PARIS, Password Manager (IAM Front End), Payroll Application, Pcard, Personnel Registry Management System (PRMS), pi Portal, Production AITS Linux Servers, Production AITS Solaris Servers, Professional Programs Admission Application Interface (PPAA), Proficiency and Placement Advanced Placement (PNPAP), Protected Email Attachment Repository (PEAR), PRZM, Registration Time Ticketing (RTT), Report View Module (RVM), RISC database, SAS reporting, Security Application, Service Desk Manager Mail Transfer Agent (SDM MTA), SOEEA Time Reporting, State Appropriation Control System (SACS), Student Web Withdrawal Self-Service, Subversion, Technology Services Endpoint Services Munki Mac Endpoint Management, Transfer Credit Extract Front-End Application, Travel and Expense Management (TEM), Travel Card Web Application (TCard), Tuition Waiver Eligibility Front-End Application, uAchieve, UI New Hire, UIC Class Scheduler, UIC Common Application Interface, University Codebook, University Payables Applications, UpsideContract, Vendor Services Application Prequalification CAPS, Vendor Services Application: External Application Service (XAS) and Vendor Registration Application, Vet Med - Vetstar, Vet Med -VADDS, Veterinary Medicine Production Servers, W-2 online access, Work Study Front End Application, Xfer File Transfer services

Windows Patching

AITS Windows Remote Desktop and Citrix servers, Academic Vacation and Sick Leave (AVSL), Automation Anywhere Bots, Axiom Elite, Banner Document Management Services (BDMS-BXS), BeyondTrust (Bomgar Remote), Business Objects - Eddie, CA Service Desk Manager (SDM), CFA OLAP Cube, Cashiering System (NelNet NBS), Center for Prevention Research and Development (CPRD) Production Servers, Change Funds, College of Education servers maintained by AITS, DS Solution Library, Decision Support Password Management, Decision Support USC Requests, Ellucian ISSM for UIS, Employment Verification System (EVS), Enterprise RightFax, Enterprise SCCM Service, Enterprise Works Production Servers, Expense Trends OLAP Cube, Federal Methodology Needs Analysis (FMNA), File Shares supported by AITS, FormBuilder, FormFusion Evisions, Grants and Contracts Applications, HR Reporting Portal, HRPAY Tools (NEWT), IAM Affiliation Manager, IAM External Affiliation Management, IAM Support Application, IPay, Illinois Contract System (iCS), Illinois Profiles, Illinois State Geological Survey servers maintained by AITS, Institute of Government and Public Affairs (IGPA) Production Servers, Intellectcheck, K2, Legal Matters Management System (LMMS), Microsoft Team Foundation Server - OVCR, My UI Info, NetID Center, OBFS Faxing, OBFS Office of Cash Management and Investments applications, OBFS Production Servers, OCR for AnyDocs, OSSS applications, Office of Technology Management (OTM) Production Servers, PRZM, Payroll Application, Pcard, Planning and Budgeting servers maintained by AITS, Procurement Bulletin, Production AITS Windows Servers, SAS Visual Analytics, SOEEA Time Reporting, School of Labor and Employment Relations (LER) Production Servers, Shield VPN, SiteMinder Authentication and Authorization Service, Student Insurance Office website, Tableau Server, Training Registration - Capital Programs (UOCP Training App), Training Registration - HRIS-OBFS, Training Registration - SURS Retirement Seminar, UA Citrix, UA Printing services, UI Extension database servers, UI New Hire, UIC Class Scheduler, UIC Class Search Features, UIC Copy Center, UIC Course Section Finder, UIC Office of the Vice Chancellor for Research (OVCR) Production Servers, UIUC Undergraduate (myillini) Admissions Application, UOCPRES (UOFPP) website, University Accounting and Financial Reporting Applications, University Payables Applications, UpsideContract, Vendor Services Application Prequalification CAPS, W-2 online access, Websites deployed with SitePublish, iBuy, iCard, iCard Production Servers, my.uic, myResearch Portal (piPortal)

What is AITS Moving?

RRB production data represents the following footprint.

- 377 TB of replicated data
- 355 virtual machines
- 948 applications



Isolated HAB Testing Environment

Standard processes and communications

- System Status page at https://status.uillinois.edu/SystemStatus/jsp/current_events.jsp
- AITS Communications

Testing will resume by mid-December.

External system testing

- Yes – test away
- No – please email AITS Communications at aitscommunications@uillinois.edu

Timeline: February 11-12, 2023



Full Production Failover Event

February 11, 2023

Production down
at
6:00 A.M.

- AITS will start moving systems to HAB
- HAB Generator

Production
continues to
remain down.

- Estimated timing
- Production Readiness Testing Occurs

Production is up
around
1:00 P.M.

- Production is up at HAB
- Follow standard communication protocols

Full Production Failover Event

21

February 12, 2023

Production down
at
6:00 A.M.

- AITS will start moving systems to RRB
- HAB Generator

Production
continues to
remain down.

- Estimated timing
- Production Readiness Testing Occurs

Production is up
by 6:00 P.M.

- Production is up at RRB
- Follow standard communication protocols

Services Remaining Up and Running in RRB

- Siteminder and Identity Access Management (highly available via HAB)
- CDC01 & CDC02 UOFI Domain Controllers
- Procurement Bulletin Search
- Rightfax
- Vetstar/VADDS ProIV
- Backups



DR Website – Work in Progress

<https://go.uillinois.edu/DisasterRecovery>

ADMINISTRATIVE INFORMATION TECHNOLOGY SERVICES

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Enterprise Systems Disaster Recovery

Business Continuity Planning (BCP) Services, part of IT Services and Operations (ITSO), supports the Office of Administrative Information Technology Services (AITS) in the performance of duties and responsibilities associated with information technology risk management, continuity of operations/continuity of university business, and audits/assessments as they relate to information technology. The Risk Management and Business Continuity Planning team offers business continuity management and risk advisory services designed to identify and provide guidance on potential events which may impact the delivery of information technology services and provides managers with reasonable assurance via recovery procedures that IT service objectives are being achieved. The team works with State agencies, university departments, and private businesses and non-profits as necessary.

AITS-0147 Rapid Failover and Recovery Testing Project

Scope Description

Create redundant systems and processes to allow for 'Rapid' failover for all applications from systems at RRB (Roosevelt Road Building) to HAB (Henry Administration Building). Complete all necessary testing for failover success to establish a timeline/timeframe in the event of failover/recovery, and document all required procedures and processes. Additionally, we must ensure that returning capabilities to RRB must also work (fallback).

Deliverables and Objectives

To prepare for disaster recovery and rapid network failover by updating hardware and creating outage plans and recovery strategies for the short term, intermediate term, and long term. This will happen through careful, detailed planning and thorough testing. This includes:

- Physical hardware installation and networking
- Replication method requirements and design. including outline of RTO (time it will take to make the system active again based on priority level) and RPO (how

Upcoming Events

[Caffeine Break: Rapid Failover and Recovery – Disaster Recovery Efforts](#)

Friday, Dec 2, 2022, 9:00 am

AITS has been working on a 'Rapid Failover and Recovery' project to set up redundant systems and processes that will allow for a failover of all production applications hosted in our primary datacenter location in Chicago to our secondary location in Urbana. This will give AITS the ability to provide system continuity in the event of a disaster or unplanned outage.

We are preparing for a full production failover event out of Urbana on Saturday, February 11 – Sunday, February 12 and want to share details and information with the campus community.

Be sure to join us to learn more about the project, and the plan for testing.

The Caffeine Break Committee will send an updated invitation to their listserv in the days prior to the event, or you can use the short URL below to join.

Please share this with anyone that may be interested.

go.illinois.edu/caffeinebreak



QUESTIONS?



TABLETOPS

AITS and Technology Services

AITS Tabletops

HAB Outage Tabletop

- September 2022
- Report & Action Items

DR Escalation

- Spring of 2023

Urbana Campus Emergency Management Event

- Fall of 2023



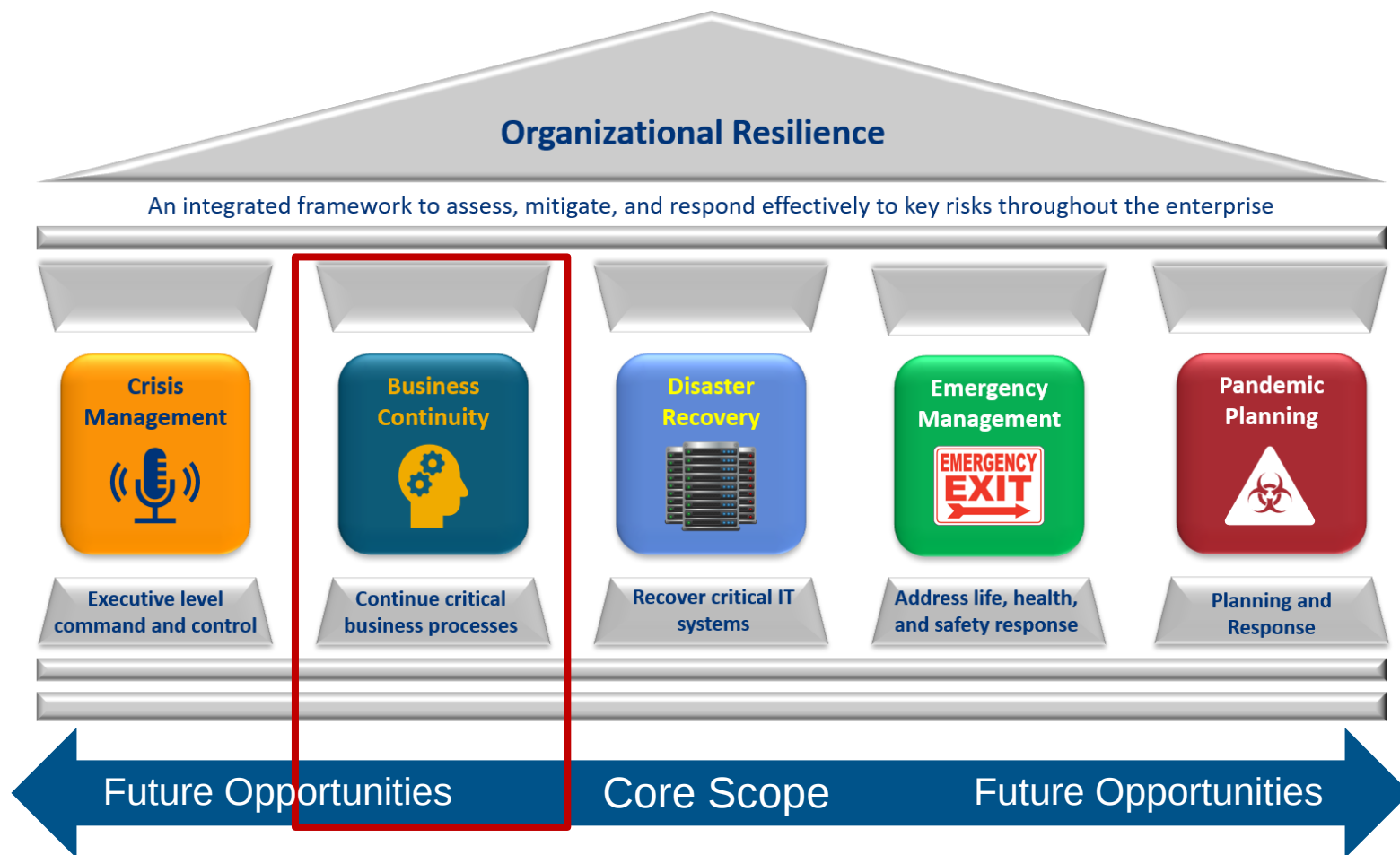


BUSINESS CONTINUITY PLANNING

AITS and Kualu

Business Continuity Planning Context & Scope

AITS has endeavored to elevating its organizational resilience posture beginning with the development of a DR program and is now moving toward the BCP opportunities.



QUESTIONS?

**Next Steps, Suggestions, Feedback
& Action Items**