

IOT Mainframe System Administration - 2020

Who We Are:

Indiana Office of Technology – Mainframe System Administration is a 7 member team responsible for maintaining high performance, extremely reliable IBM z System operation to its customers on a 24x7 basis. This team ensures excellent service, on a daily basis, for processing millions of online transactions, plus thousands of batch processes which employ a wide variety of databases, programming languages and access methods each capable of interacting with various operating system platforms (UNIX, Linux, Windows, etc.) on various hardware platforms. The team ensures availability of complimentary or core services on the IBM z System to interact with external technology services which are popular, modern and well known. The team ensures retention of value the State of Indiana has made over time which have produced reliable, highly matured application services. The team is responsible for maintenance of two separate operations on one machine in Indianapolis, one for the State of Indiana and another for Ball State University. Additionally, support is rendered to a disaster recovery site; a replicate IBM z System configuration of the operation in Indianapolis. To ensure operational continuity in disaster events, it is augmented by two additional, complete disk storage subsystems to maintain various states of replication of business operation in Indianapolis. Replication includes up-to-the-moment replication of real-time business operation of the local IBM z System.

An **important** aspect of IOT Mainframe System Administration is maintaining authentic access to resources, data, methods and any other variety of services rendered by the IBM z System.

Staffing is maintained through assignment of standard business hours. However, all members of staff are “on call” 24x7 for any incidents or events that require their attention. Additionally, as required, staffing at any hour or period is provided to minimize business impact during major maintenance or upgrade events.

Our Mission: Ensuring 24 x 7 Operations for IOT Data Center Systems Processing and Hardware.

The mission of Mainframe System Administration is to provide a high capacity, highly responsive and highly reliable computer operating platform capable of addressing and providing a wide variety of modern information technology services demanded by requirements of supplied by any state office or agency, or by Ball State University. This provision includes:

- Acquisition, implementation, configuration and maintenance of:
 - ✓ High performance IBM z System hardware at a reasonable cost.
 - ✓ The IBM z Operating System at a reasonably current level.
 - ✓ Non-IBM software products to support the breadth of servers, services and users that connect to the IBM z System.

Note: This includes maintaining a highly secure operating platform, including regular and detailed review of activity to ensure authentic access to the IBM z System and the broad variety of resources provided by it.

- Regular perf evaluation and perf adjustments to continuously meet all business needs assigned to the IBM z System.
- Evaluation of new IBM and non-IBM technologies available to render services from the IBM z System.
- Participation in, development of, and reporting on any State of Indiana conceptual efforts for which the IBM z System may play a part.

Department History:

The mainframe has been a part of the State on Indiana’s IT infrastructure since the late 1960’s. At one time, the mainframe was the dominant computing source for Indiana. At that time, the team that supported the mainframe was significant in size. The systems administration staff alone, exceeded 20 members, and this was on top of the Production Control, JCL Techs and Operations staff. With the on slot of distributed solutions, (Windows, Unix, Linux, etc.) many agencies opted to migrate off of the mainframe. BMV is an example. Still the mainframe persists, and large agencies applications such as ISETS, ICES, and the Dept. of Corrections OIS, JDS, all reside on the mainframe to this day.

What We Do:

We provide:	24x7 Mainframe Systems Programming and Support
Application Support	Provide systems admin support for IBM’s Z series operating system, CA7, CA1, CA11, TSO, ISPF, SDSF, DB2, IMS, IDMS, DFHSM, AF-Operator, SMS, WLM, Q-RADAR, VTAM, CICS, Z-Secure.
Issue Support	Research/solve abended/ailed production processes. Tune system software for performance. Install, maintain, and support the applications listed above.
Project Support	Provide support for multiple state agencies.
Customer Service	First point of contact for all systems related support.
Consulting Services	Consult with agency in support of their applications running on the mainframe.

Manager: Bradley Jerod Keller

Our Metrics:

We are required to have a 99.9% up time, and we meet this goal.

Our Customers:

Department of Revenue (DOR); Department of Correction (DOC); Department of Workforce Development (DWD)
Department of FSSA (ISETS, and ICES) Child Support, and Food Stamps
Division of Family Resources (DFR); IOT Helpdesk; Ball State University

Our Budget: \$5.7 Million

Our Growth:

Total Mainframe Transactions 2007: **19,137,419** (Formerly Product 5000)
Total Mainframe Transaction 2019: **36,021,079** (Products 1206, 1207, 1208, 1209, 1210)

2019 Transaction Product Breakdown

1206/Batch – 27,570,467
1207/DB2 – 8,196,826
1208/IMS – MOU
1209/CICS – 73,786
1210/IDMS – MOU

Major Accomplishments:

- Completed an multi-agency project to implement encryption at rest.
- Production DR execution without impact to customer.
- Migrated all data between sites without impact to performance or data integrity.
- Successfully completed 2 disaster recovery tests with FSSA .
- Completed install and configuration of Endeavor and completed migration from Panvalet.
- Migrated AOS to an LPAR hosted on the IOT Mainframe.
- Converted from DB2 internal security to RACF security for DB2.
- Upgraded entire IOT Mainframe environment from BC12 legacy hardware to new z14 architecture.
- Upgraded IOT Mainframe disk subsystems from legacy 8870 legacy hardware to new 8910F architecture.

Current Projects:

- Replace CA7 enterprise scheduler with a new, modernized scheduling and automation engine.
- Integration of RACF with Active Directory for account security automation activities.
- Upgrade DB2 and implement Enterprise Extender encryption.
- Elimination of SAS software solution and migration of job activities to native zOS operations.
- Working with Business Continuity and DR teams to integrate Mainframe and Operations for COOP planning.