

SFA Modernization Partner
United States Department of Education
Student Financial Assistance



Data Mart Operations:
Knowledge Transfer, Roles & Responsibilities,
Help Desk Tools, Metrics, Policies & Procedures

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1.0 Introduction

The purpose of this document is to define the approach for providing the capability to sustain the CFO and FP Data Marts, at the Office of Student Financial Assistance (SFA) within the U.S. Department of Education.

Scope and Objective

The scope of this task order is to provide capability and to sustain the CFO and FP Data Marts. The support capability will include logging and tracking all technical problems, user support (i.e. providing assistance to users by answering questions about the applications), bug fixes (i.e., diagnosing and resolving deficiencies in the application that prevent it from meeting existing requirements), and minor enhancements (i.e., analyzing and implementing minor requirement changes to Microstrategy reports, Informatica data mart mappings, and extracted information from source systems).

2.0 Service Delivery Solution

The service delivery solution section aims to define an approach for ongoing maintenance of the CFO and FP data marts. This section will specify the data mart management services.

Guiding Principles

The following guiding principles were used to drive the design of the Service Delivery Solution:

- ❑ The proposed solution must meet CFO and FP Data Mart application needs.
- ❑ Maximum reuse must be made of industry best practices and existing assets such as procedures and tools to minimize risk and ensure operational readiness within a very short timeframe.



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Service Baseline

This section defines services provided to the CFO and FP Data Mart users.

Services

The following table defines the scope of Application Management.

Service Line	Description
Program Management	<input type="checkbox"/> Coordination of Providers <input type="checkbox"/> Quality Assurance <input type="checkbox"/> Change Request Management <input type="checkbox"/> Overall Performance Measurement and Reporting
Applications Maintenance	<input type="checkbox"/> Application Updates, Performance and Tuning <input type="checkbox"/> 2 nd Tier Applications Management Support <input type="checkbox"/> Development and Test Environment Maintenance
Tier II Technical Help Desk	<input type="checkbox"/> Technical Problem Management and Tracking

Service Hours

Data Mart Support will be provided during the business hours (8:00am to 6:00pm EST) Monday through Friday. No support will be provided after hours, on weekends, and federal holidays.

Target Response Times

Response time is the time from when a user places a request until it is logged, assigned, and acknowledged by the Tier II Applications Management representative who will be working on the request. Target Response time does not include the amount of time it takes to resolve the request. All requests regardless of priority received before 9:00am will be acknowledged by 1:00pm that business day. Requests received by 12:00pm will be acknowledged no later than 4:00pm that business day. Any requests received after 4:00pm will be acknowledged the following business day no later than 9:00am.



3.0 Roles and Responsibilities

The purpose of this section is to provide a high level understanding of the organization required to run the Data Mart Operations Support Management Team. It includes a description of the guiding principles for building the Data Mart Operations Support Management Team, a detailed organization structure, descriptions for each function within the organization and a staffing plan.

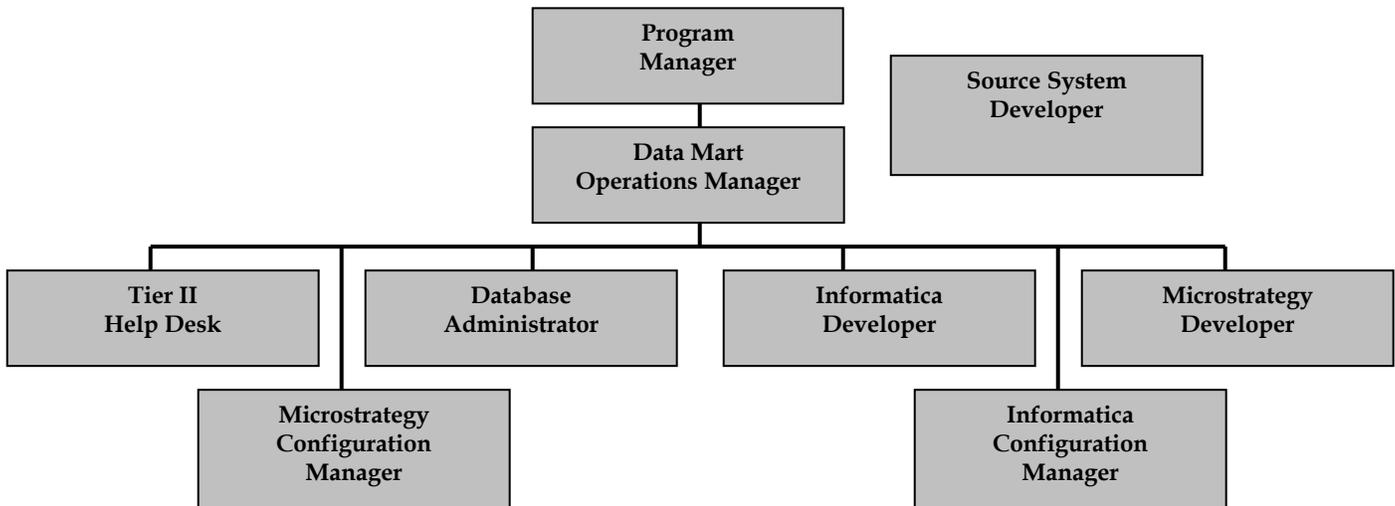
Guiding Principles

The following guiding principles were used to drive the Applications Management organization.

- ❑ Meet CFO and FP data mart customer needs.
- ❑ Ensure a customer focus by providing a single point of accountability for each application supported.
- ❑ Provide a single entry point to receive and resolve user problems, to receive and process content requests, and to receive and document application enhancement requests.
- ❑ Work with end users to integrate process and procedures to support the operations.
- ❑ Enable the process architecture (refer to section 4.0).

Data Mart Operations Support Organization Design and Model

The functional organization model depicted below outlines all functions required to support the Data Mart Operations Support Team at SFA.





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Functional Descriptions

Outlined below are functional descriptions for each organizational area within the Data Mart Operations Team. Key responsibilities are described for each function.

Program Manager

The program manager is responsible for ensuring that the Applications Management organization provides enterprise-wide capability to operate SFA applications such that the business value originally intended to be derived from each application is fully realized.

- ❑ Support the business sponsor to manage the development of business cases for major application enhancements
- ❑ Ensure consistent policies, procedures, standards and guidelines across SFA applications particularly related to the VDC
- ❑ Manage the measurement and reporting of performance metrics across SFA Applications

Data Mart Operations Manager

- ❑ Establish and manage governance for Data Mart applications
- ❑ Review and prioritize (with customer input) minor enhancement requests
- ❑ Establish, measure and report on performance metrics
- ❑ Establish/manage formal agreements
- ❑ Authorize, prioritize and assign work
- ❑ Establish and manage releases
- ❑ Adhere to SFA configuration management policies

Reporting Support - Microstrategy Developer

- ❑ Maintain CFO and FP reports
- ❑ Make minor enhancements to reports when needed

Data Mart Support - Informatica Developer

- ❑ Monitor CFO and FP batch loads to ensure data integrity
- ❑ Make minor enhancements to Informatica mappings when needed

Database Administrator

- ❑ Maintain the Oracle tables which contain the data in the Data Mart
- ❑ Make minor enhancements to the Oracle table structures and indexes within the Data Mart for functional and performance requirements



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Microstrategy Configuration Manager

- ❑ Ensuring no duplication of Metadata objects in the Test and Production environments
- ❑ Performing the final test to developed reports before migrating the report from development to test or from test to production
- ❑ Migrating objects from the 'my reports' folder to the 'public objects' and 'schema objects' folder in development
- ❑ Migrating new/altered reports from development to test and from test to production using Object Manager
- ❑ Correcting any issues with Metadata corruption
- ❑ Synchronizing the development, test, and production metadata

Informatica Configuration Manager

- ❑ Performing the final test to developed mappings, session, and batches before migrating the mapping from development to test or from test to production
- ❑ Migrating new/altered mappings from development to test and from test to production using Designer and Server Manager

Source System Developer

- ❑ Supports application maintenance for CFO source data
- ❑ Supports application maintenance for FP source data

User/Help Desk support - Tier II Support

- ❑ Act as liaison between Data Mart users and Operations Support Team
- ❑ Log, track, and update all requests concerning the CFO and FP Data Marts



4.0 Process Architecture

The purpose of this section is to provide a high level understanding of the processes required to run the Data Mart Operations Support team and sustain long term operations of applications.

The processes within this architecture are to be used on a daily basis by all Data Mart Operations Support team members. Many of the processes interface with groups outside Data Mart Operations Support. These groups are identified in the architecture as:

CFO

- ❑ CFO Web Users - users that can only access reports via web; users do not have the privilege to create or modify reports
- ❑ CFO Power Users - users can access reports through Microstrategy tool; these users have completed Microstrategy training, therefore obtaining the privilege to create and modify reports

FP

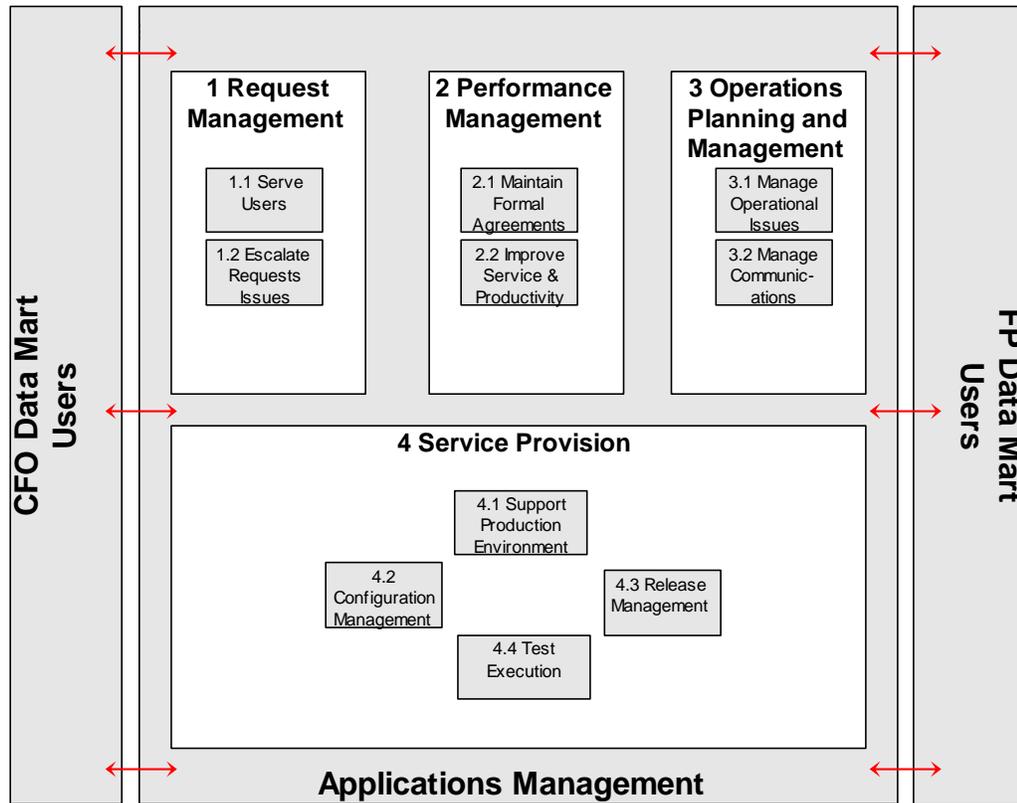
- ❑ FP Web Users - users that can only access reports via web; users do not have the privilege to create or modify reports
- ❑ FP Power Users - users can access reports through Microstrategy tool; these users have completed Microstrategy training, therefore obtaining the privilege to create and modify reports
- ❑ Lenders - representatives from external Financial Partners who are lenders
- ❑ Guaranty Agencies - representatives from Financial Partners who are Guaranty Agencies
- ❑ Application Maintenance Developer - maintains metadata and reports but does not have the authority to use Microstrategy Object Manager
- ❑ Administrator - ensures security of user accounts

CFO and FP

- ❑ Informatica Configuration Manager - individual will serve as the custodian of all mappings, session, and batches for the different Informatica Repositories
- ❑ Microstrategy Configuration Manager - individual will serve as the custodian of all the reports in the 'shared folder' for the different Microstrategy projects



Process Architecture



Architecture Description

Request Management

This process category contains the majority of the user facing processes, which are used to resolve a request.

1.1 Serve Users – This process group contains the processes associated with logging, validating, clarifying, classifying, controlling changes to, tracking, and closing requests for service. These requests can include questions, enhancements, bug fixes requests, production support, or miscellaneous requests. Across this process group, the requestor is continually kept informed



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of the status of the request. The process group defines the activities performed in the event of an emergency or major incident request (Incident Management).

1.2 Escalate Requests Issues- This process group defines the framework for escalating a request or issue both internally and externally. It also documents the interface between Applications Management, SFA and the other parties involved in resolving service requests.

Performance Management

This process category considers the requirements necessary to manage the relationship with SFA. Within it are the activities related to preparing and evaluating the level of service provided to SFA, the process for maintaining relationships and the activities for maintaining formal agreements.

2.1 Maintain Formal Agreements - This process group defines the process to measure performance against the service agreements and then make appropriate corrective action. It includes the steps required to redefine these agreements if necessary.

2.2 Improve Service & Productivity - This process group defines the process to work with the stakeholders to develop and maintain a list of expectations to be met during the ongoing delivery of services. Develop an infrastructure to monitor expectations and perform assessments as well as identify and implement improvements.

Operations Planning and Management

These process groups encompass the management and planning activities related to internal and external communications, financial activities, and account planning required to run the group's operations as a business.

3.1 Manage Operational Issues - This process group identifies the steps to be taken both internally and externally to take a management issue or problem and escalate it to the appropriate individuals for resolution.

3.2 Manage Communications - This process group covers the steps needed to ensure that all stakeholders (internal and external) receive the information they need to perform their functions. This includes maintaining and executing a communications plan, and maintaining contact information of all stakeholders



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Service Provision

This process group delivers the core of the design-build services provided to the user (coding, testing, etc.). It also includes any ongoing maintenance or non-request initiated services.

4.1 Support Production Environment – This process group includes steps for monitoring the performance of the applications as well as planning the applications capacity.

4.2 Configuration Management – This process group contains processes to maintain the integrity of the overall application in each environment as changes are made and migrated.

4.3 Release Management – The steps to group and move changes through development, testing and release.

4.4 Test Execution – The steps required to check for mistakes and problems prior to releasing changes into the production environment.

5.0 Data Base Tracking Tool and User Procedures

The purpose of this section is to provide a high level understanding of two of the most critical processes required to run the Data Mart Operations Support.

User Procedures

Request Management

Users will call the Operations Support Help Desk or send a message to the Help Desk mailbox. The help desk support will log and track all requests in a request database tracking tool. Simple requests (e.g. answering a question) will be resolved by the help desk support. More complex requests will be prioritized and forwarded to the corresponding team member. At the time of the request, the service requester will receive a ticket number. The service requester will be able get the status of the request at all times. If necessary, third party (e.g. Microstrategy, Informatica) support will be obtained to help resolve the request. Once a request has been resolved, the Operation Support Help Desk will inform the service requester, close the service request, and collect service metrics.



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Production Environment Support

This includes activities for monitoring the performance and availability of the applications and architecture, as well as resolving issues. Daily activities include: navigating to the applications via the URL to ensure that the sites are available; analyzing batch loads to ensure successful processing; resolution of outstanding issues based on priority. Further daily activities include monitoring the backend of the architecture by logging onto the remote production servers and running queries to ensure that the essential server processes are running to support the applications.

Any issues discovered during the monitoring of the sites will be logged and tracked in the Operations Support Management Database. These issues will be communicated to the Data Mart Operations Manager and worked on by the Operations Support Team.

Tracking Tools

The following table summarizes tools that will initially be used to support the Operations Support Team.

Tool	Function
MS Access based Request Tracking Database	<input type="checkbox"/> Service Agreement Measurement and Reporting <input type="checkbox"/> Problem Management <input type="checkbox"/> Change Management
MS Excel Spreadsheet	<input type="checkbox"/> Track daily file loads <input type="checkbox"/> Track monthly file loads

The Applications Management Request Tracking Database

The Request Management processes is challenging without the use of a specially designed software tool to track and manage user requests. This tool is commonly referred to as help desk software. This section of this document will describe the help desk software that will be used by the Data Mart Operations Support Team and the rationale for selecting it as the short-term tool of choice.

The help desk software that best meets the needs of the Data Mart Operations Support Team is an MS Access database designed specifically for help desks and customized for SFA. The Application Management Request Tracking Database, as it is called, has all the desired **functionality** for **day-one readiness** and an extremely **affordable lifecycle** cost. Also, since MS Access is a skill abundant within

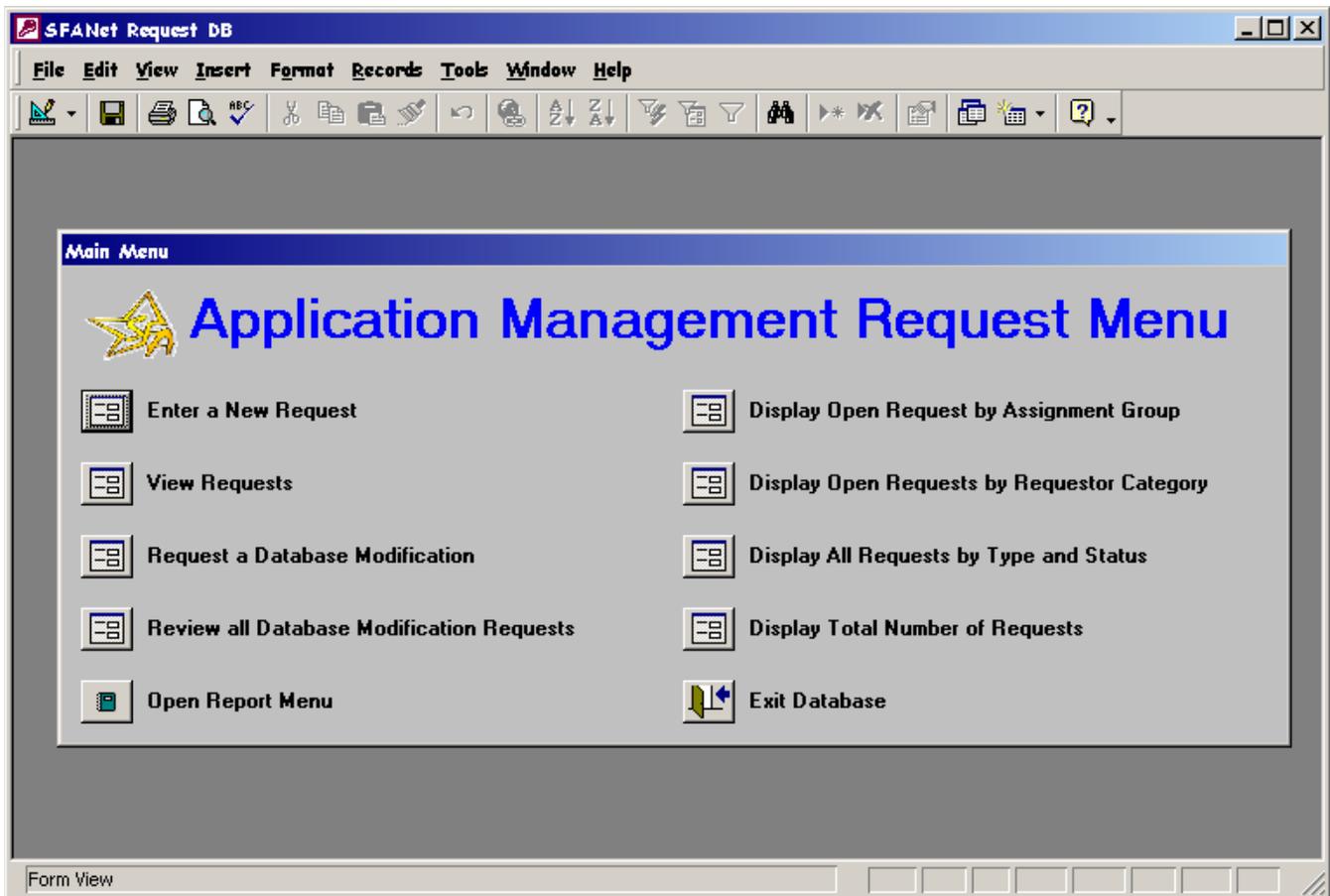


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the team, the database can **continually improve** as the team evolves without having to contract external help.

By installing MS Access on each team member's PC and storing the database on a shared drive to which both Tier I and Tier II help desks have access, all the required help desk functionality can be provided to both teams allowing seamless transfer of user requests.

Functionality





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The screenshot shows a web-based application window titled "SFANet Request DB". The main content area is a form titled "Enter Request" with a sub-header "Edit Record". The form includes several sections: "Identification #", "Application Type", "Opened By", "Type of Request", "Priority", "Request Title", "Request Status" (with radio buttons for Open, Assigned, Acknowledged, Resolved, Closed), "Valid Request", "Authorized Request", "Complex", "Rework", "Help Desk Question", "Content", "Source", "Agreed to Date", "Time", "Requestor Name", "Requestor Phone #", "Requestor Email", "Estimated Effort (Hours)", "Actual Effort (Hours)", "VDC Down Time (Hours)", "Area", "Client", "Assigned Individual", "Assignment Group", "Assigned Phone #", "Acknowledgement Time", "Resolution Time", and "ResolutionType". A "Description" field is also present with tabs for "Description", "Resolution", and "Activity Log". The form is currently displaying record 165 of 165. The status bar at the bottom indicates "ID number of the Request".



Data Mart Activity Log

The Data Mart Activity Log will keep track of CFO daily loads and FP monthly loads along with brief descriptions of any odd findings on a particular day. There will be a new log generated each month.

Data Mart August Loading Activity

FP Data Mart Monthly Load

Date Posted	Number of Rows Processed	Notes

CFO Data Mart Daily Loads

Date Posted	Number of Rows Processed	Notes
Wed - August 1	5513	Server was down for a while between the hours of 9:30am and 10:30am
Thu - August 2	26938	
Fri - August 3	4924	Microstrategy Intelligent server was restarted; server was down from 4:30pm to 4:40pm

6.0 Service Reporting and Targets

This section establishes the measurements and targets for the services provided to SFA by the Operations Support for the CFO and FP data marts. It is possible for the Service Targets to be further reviewed and adjusted based on arising trends that may occur in future measurements.



Definitions

Types of Requests

- Service Investigation Request (SIR) - includes the following types of requests:
 - Big Fix - a request pertaining to an application malfunction (e.g. incorrect calculations on a report)
 - Production Support - a request regarding system use or system functionality (e.g. batch file did not load into data mart)
 - Question - a request regarding a user inquiry (e.g. a user wants to know how to run a report in Microstrategy)
 - Miscellaneous - all other types of requests
- Enhancement - a request regarding a change that will increase and/or improve the functionality or appearance of the application

Request Prioritization

Each incoming request will be assigned a priority based on an agreed set of criteria. The following is a general description of the priority levels that will be used.

SIR - Priority of requests do not change as time progresses.

- High - Requests or issues deemed to be business-critical to a data mart or report. The application or a portion of the application relating to the request or issue is not accessible until this particular request or issue is resolved.
- Medium - Requests or issues that are essential but not business-critical. The application or portion of the application relating to the request or issue is accessible, but the functionality is somehow impaired.
- Low - All other requests or issues.

Enhancement - Priority of requests escalate as the date comes closer to the requester's preferred completion and critical completion dates.

- High - requests that have exceeded the requester's preferred completion date and nearing the critical completion date
- Medium - requests that are within two weeks of the requester's preferred completion date
- Low - requests that are within 4 weeks of the requester's preferred completion date



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Status Codes:

The following status codes will be associated with each request.

- Open Request has been received and opened by the Help Desk
- Assigned Help Desk has assigned the request to the Operations Support Team
- Acknowledged Operations Support Team has acknowledged receipt of request
- Resolved Requester verifies that the fix/enhancement works in the Test environment
- Closed Request will be closed once the Help Desk migrates the fix/enhancement and the Requestor verifies it works in Production

Service Targets

Production Data Mart Availability		
Service Item	How Measured?	Service Target
CFO Data Loaded	When loaded?	Loaded before 7am every weekday
FP Data Loaded	When loaded?	Loaded before the 7 th of the following month
Ability to execute Reports	Minutes of Availability	Available 99% of the time between 7:00am and 6:00pm EST (this does not include downtime related to hardware issues or system software issues for which the Operations Support Team is not responsible).



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Customer Satisfaction		
Service Item	How Measured?	Service Target
Response Time	Elapsed time from the initial notification of the request from Help Desk to acknowledgement of request by the Operations Support Team	All requests regardless of priority received before 9:00am will be acknowledged by 1:00pm that business day. Requests received by 12:00pm will be acknowledged no later than 4:00pm that business day. Any requests received after 4:00pm will be acknowledged the following business day no later than 9:00am.
Service Reporting	Timely delivery of monthly service reports	Service Report delivered by the 7 th calendar day of the following month
Quality of Resolutions	Actions taken by help desk are correct	90% of all actions taken by help desk solve the problem first time. (Status of all requests, including user acceptance, are maintained in the database tracking tool)

Request Throughput		
Help Desk Metrics	What Measured?	Estimated Volume
Request Volumes	<ul style="list-style-type: none"> Number of Requests Received Number of Requests Carried Over from Previous Month Number of Requests Resolved per Month, sorted by: Priority/Request Type 	5 Requests/Month Note: demand for service in a particular month may vary substantially.



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7.0 Procedures for Microstrategy Project Management

Reference Microstrategy Configuration Management Plan document.

8.0 Procedures for Informatica Project Management

Reference Informatica Configuration Management Plan document.