



AUDIT

OF

GSSC IT INFRASTRUCTURE AND SERVICES

Report No. 2566
Issue Date: 16 December 2022

Table of Contents

Executive Summary	i
I. About the office	1
I. Good practice	1
II. Audit results	1
A. IT Governance	2
B. IT Services and Operations	3
C. IT Asset Management	5
Definitions of audit terms - ratings and priorities	6

Report on the Audit of GSSC IT infrastructure and Services Executive Summary

The UNDP Office of Audit and Investigations (OAI) conducted an audit of the Global Shared Services Centre (GSSC) information technology (IT) infrastructure and services from 19 September to 5 October 2022. The audit aimed to assess the adequacy and effectiveness of the governance, risk management and control processes relating to the following areas and sub-areas:

- (a) IT governance;
- (b) IT services and operations;
- (c) IT asset management;
- (d) change management;
- (e) data management; and
- (f) business process automation.

The audit covered the IT infrastructure and services of the GSSC from 1 January 2021 to 31 August 2022. This was the first audit of the GSSC IT infrastructure and services conducted by OAI.

The audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing* of The Institute of Internal Auditors (The IIA).

Overall audit rating

OAI issued an audit rating for the GSSC's IT infrastructure and services of **satisfactory/some improvement needed**, which means "The assessed governance arrangements, risk management practices and controls were generally established and functioning but need some improvement. Issues identified by the audit do not significantly affect the achievement of the objectives of the audited entity/area." This rating was mainly due to the fact that no recommendations were rated high (critical) priority.

Key recommendations: Total = **4**, high priority = **0**

The audit did not result in any high (critical) priority recommendations. There are four medium (important) priority recommendations, which means "Action is required to ensure that UNDP is not exposed to risks. Failure to take action could result in negative consequences for UNDP." These recommendations include actions to address weaknesses in the coordination of IT functions, streamlining of IT infrastructure, Internet bandwidth, and the management of IT equipment.

The four recommendations aim to ensure the following: (a) effectiveness and efficiency of operations (Recommendations 1, 2, and 3); and (b) safeguarding of assets (Recommendation 4).

Management comments and action plan

The Director of the GSSC accepted all recommendations and is in the process of implementing them. Comments and/or additional information provided have been incorporated in the report, where appropriate.

Low risk issues (not included in this report) have been discussed directly with management and actions have been initiated to address them.

Helge S. Ostveiten
Director
Office of Audit and Investigations

I. About the office

The Global Shared Services Centre (GSSC) provides transactional human resources, finance, and procurement services to UNDP offices and over 20 United Nations (UN) partner agencies. The GSSC covers 170 countries, 17,000 UNDP users and 42,500 personnel in the UN system.

As of May 2022, the GSSC had approximately 267 staff members in its main office in Kuala Lumpur and 260 staff members deployed in nine offices worldwide.

The GSSC was originally created in 2011, but the expansion of its services started in 2018. The clustering initiative¹ performed by the GSSC was proposed in the UNDP Strategic Plan 2018–2021 to support the achievement of the UN 2030 agenda and the Sustainable Development Goals. The clustering initiative was a critical component of the GSSC business model, and its goals were to improve organizational cost effectiveness and efficiency, and to deliver value for money.

IT infrastructure and applications used by GSSC staff and focal points in UNDP Country Offices play a major role in enabling process efficiency and facilitating successful operations. Typically, the Information and Technology Management (ITM) office of the Bureau for Management Services develops overarching policies and procedures while business units adopt and implement them in their local management of IT services. From its start in 2011, the GSSC relied on its own IT infrastructure, including hardware, software, and network equipment, and was fully supported by a local data centre. As the clustering process developed to include a wider range of financial, HR and procurement services, the GSSC transitioned to the use of outsourced online IT services (Oracle CX, UNall and Microsoft Azure services) and reduced its reliance on the local IT infrastructure.

The GSSC IT Section consisted of three personnel who were responsible for local infrastructure management and user support. There were another three personnel working on IT-related tasks in the GSSC but reporting to different managers in operations, the directorate and business systems units. The facilitation of core GSSC business functions such as payables, payroll and HR services were supported by corporate as well as purpose-built software applications. UNDP's enterprise resource planning system (Atlas) was used as the main tool to perform most of the business functions.

I. Good practice

OAI identified a good practice relating to business process automation of custodian forms, as follows:

The GSSC developed automated workflows to send email messages to the custodians of IT equipment in the office. This helped to control asset locations and created electronic records for easy searches. In addition, the new process eliminated the use of printed paper forms.

II. Audit results

Satisfactory performance was noted in the following areas:

- (a) Change management. No reportable issues were noted based on the review of the office's initial planned transition to the new service lines and business processes. The office was following the corporate training plan for Quantum.

¹ Since 2011, the GSSC has been providing global financial shared transaction services to UNDP offices. In 2018 the UNDP Executive Group approved the development of a business case for the clustering of a wider range of operational services. Implementation of clustering finance, human resources and procurement services was done in November 2021.

- (b) Data management. No reportable issues were noted in the area of data management. The corporate applications were being used to process requests from UNDP units.
- (c) Business process automation. No reportable issues were noted with the development, usage and maintenance of the three cloud-based robotic processes implemented in the office.

OAI made four recommendations ranked medium (important) priority.

Low priority issues/recommendations were discussed directly and agreed with the office and are not included in this report.

Medium priority recommendations, arranged according to significance:

- (a) Manage the stock of equipment at hand (Recommendation 4).
- (b) Streamline and reduce the footprint of IT services (Recommendation 2).
- (c) Increase the bandwidth of the primary Internet link (Recommendation 3).
- (d) Improve coordination and manage key personnel risks (Recommendation 1).

The detailed assessment is presented below, per audit area.

A. IT Governance

Issue 1 Insufficient coordination in management of IT functions

The coordination of teams that carry out IT-related activities helps foster an environment where there is synergy based on widely accepted ICT practices. This ensures teams can effectively communicate and collaborate where there are interdependencies, and also enables knowledge sharing.

The GSSC had six staff members and personnel performing IT-related roles and reporting to different functions within the office. They worked in different teams and did not share ongoing project updates, which could have impacted each other's work. This was creating gaps in the management of IT. For instance, internal processes relying on corporate data were not managed centrally and individual staff members had to request access and obtain similar data sets from the ITM office of the Bureau for Management Services, instead of using dedicated focal points in the GSSC.

Knowledge transfer among peers performing IT functions on different levels within the GSSC was lacking. While some of the staff members had very thorough knowledge of the business-critical systems that they had locally developed, the knowledge was not shared through either documentation or periodical updates, thereby creating a key person risk. If a staff member with unique knowledge leaves the organization, there is a risk of institutional knowledge loss and possible interruption of existing business processes.

After the audit, management established an IT Coordination Group incorporating IT staff members and personnel with a view to improve coordination and address the lack of knowledge sharing among them. As this initiative was recently implemented, OAI was not able to assess its functioning.

Priority	Medium (Important)
Recommendation 1:	
To improve coordination and manage key personnel risks, the GSSC should:	
(a) establish a mechanism to assess and document the work of the newly established IT Coordination Group; and	

- (b) establish procedures to mitigate key personnel risks for business-critical systems/applications locally developed.

Management action plan:

The IT Coordination Group of the GSSC will meet monthly to ensure the objectives of its terms of reference are met and, under the guidance and direction of ITM and other key policy owners, will implement procedures to mitigate key personnel risks.

Estimated completion date: July 2023

B. IT Services and Operations

Issue 2 Suboptimal setup of local IT infrastructure

To comply with UNDP IT standards (standards for IT infrastructure and services), UNDP-owned laptops need to be enrolled in Intune.² Intune enrolment should have been completed by 30 June 2022.

According to the Intune dashboard, 201 out of the 267 GSSC-managed laptops in the Malaysia office were enrolled at the time of the audit. Not having 100 percent of GSSC devices enrolled limits the visibility of asset inventory and attack surface, which may limit the ability to detect and contain cyber-attacks.

The GSSC office in Malaysia used the local active directory service for the purpose of authenticating users in the local network. At the time of the audit, the majority of user laptops were already managed through Intune and were not using the local domain services. The local active directory was a redundant resource that still required maintenance and an increased GSSC IT footprint, which results in wasted resources and time spent in supporting and maintaining it.

Unused laptops may result in an increased IT footprint and may lead to unnecessary exposure and vulnerability to IT incidents.

Priority Medium (Important)

Recommendation 2:

The GSSC should streamline and reduce the footprint of local IT services by:

- (a) enrolling all laptops in the GSSC Malaysia office into Intune; and
- (b) decommissioning the local active directory service.

Management action plan:

² Microsoft Intune is a central device management platform that enables ITM and IT managers to configure and manage IT devices remotely.

All computers of the GSSC in Malaysia will be enrolled in Intune by the proposed completion date and, once all the computers are enrolled in Intune, the local active directory service will be decommissioned.

Estimated completion date: April 2023

Issue 3 Insufficient Internet bandwidth

The UNDP IT standards recommend having bandwidth of one Megabit bit per second (Mbps) upload and download per user. The alternative workweek schedule in GSSC requires that up to 228 personnel will be in the office in any given week; this requires an Internet link of 228 Mbps download and 228 Mbps upload using the one Mbps standard.

The GSSC had two Internet links. The primary link (100 Mbps download and 100 Mbps upload) was provided by the host Government. The backup link (500 Mbps download and 50 Mbps upload) was acquired by the GSSC. The upload speed of the backup link was low, which limited its usage by the users. Hence, the primary link was used even though its bandwidth was significantly lower than recommended and would cause even further delays in performing daily work for GSSC users when Quantum,³ which is data intensive, is launched. Given the online nature of Quantum, its more modern design and the need to upload supporting documents online, it was expected that it would require more bandwidth compared to Atlas.

The GSSC initiated discussions with the Government on this matter in the beginning of 2020 and had several follow-up meetings since then. However, at the time of the audit, a decision to approve the Internet bandwidth upgrade had not been taken. Limited Internet bandwidth may lead to decreased productivity due to waiting times during extensive file downloads and uploads while performing core processes in the GSSC.

Priority	Medium (Important)
Recommendation 3:	
The GSSC should increase the bandwidth of the primary Internet link in the office to at least 300 Mbps by exploring all available options in order to ensure there is no interruption to the work of users.	
Management action plan:	
The GSSC will increase its primary Internet bandwidth link by the proposed completion date.	
Estimated completion date: April 2023	

³ UNDP was in the process of implementing a new enterprise resource planning system. The new cloud-based digital engagement platform is called Quantum and was expected to be launched in January 2023.

C. IT Asset Management

Issue 4 Surplus IT equipment requires planned reallocation

The 'UNDP Programme and Operations Policies and Procedures' stipulate that procurement forecasting and delivery (procurement planning) is essential to effective risk management, and therefore to the overall performance of the organization. Good IT management practices recommend that IT equipment should be procured based on assessed immediate needs. Business units should avoid holding large quantities of new unused equipment in stock given how rapidly such equipment becomes obsolete and how quickly IT equipment loses value.

During the 2020–2022 period, IT procurement plans were undertaken based on projected headcount growth, which did not fully materialize in all locations. IT procurement plans were fully executed in 2020 and 2021 and as a result, some GSSC units were holding a significant surplus of IT equipment, as follows:

Table 1: Laptops procured against personnel size in various locations

Unit	Total laptops procured	No. of Staff	Excess of laptops
Kuala Lumpur	368	267	101
Jordan	24	17	7
Dakar	36	28	8
Istanbul	33	17	16
Total	461	329	132

As of the date of the audit, the audit team noted that the 2022 IT budget for the GSSC office in Malaysia included plans to procure an additional 100 laptops. Proceeding with the planned procurement of new laptops would be wasteful given the quantity already at hand as the equipment loses its useful life in storage.

Priority	Medium (Important)
Recommendation 4: To manage the stock of equipment at hand, the GSSC should: <ul style="list-style-type: none"> (a) develop a needs-based IT equipment optimization plan, accounting for existing IT equipment relative to actual GSSC staffing; and (b) transfer the surplus of laptops to other business units. 	
Management action plan: The GSSC will implement the recently developed needs-based IT equipment optimization plan and will utilize, transfer surplus laptops in conjunction with the provision of the plan.	
Estimated completion date: April 2023	

Definitions of audit terms - ratings and priorities

A. AUDIT RATINGS

- **Fully Satisfactory** The assessed governance arrangements, risk management practices and controls were adequately established and functioning well. Issues identified by the audit, if any, are unlikely to affect the achievement of the objectives of the audited entity/area.
- **Satisfactory / Some Improvement Needed** The assessed governance arrangements, risk management practices and controls were generally established and functioning but need some improvement. Issues identified by the audit do not significantly affect the achievement of the objectives of the audited entity/area.
- **Partially Satisfactory / Major Improvement Needed** The assessed governance arrangements, risk management practices and controls were established and functioning, but need major improvement. Issues identified by the audit could significantly affect the achievement of the objectives of the audited entity/area.
- **Unsatisfactory** The assessed governance arrangements, risk management practices and controls were either not adequately established or not functioning well. Issues identified by the audit could seriously compromise the achievement of the objectives of the audited entity/area.

B. PRIORITIES OF AUDIT RECOMMENDATIONS

- **High (Critical)** Prompt action is required to ensure that UNDP is not exposed to high risks. Failure to take action could result in major negative consequences for UNDP.
- **Medium (Important)** Action is required to ensure that UNDP is not exposed to risks. Failure to take action could result in negative consequences for UNDP.
- **Low** Action is desirable and should result in enhanced control or better value for money. Low priority recommendations, if any, are dealt with by the audit team directly with the Office management, either during the exit meeting or through a separate memo subsequent to the fieldwork. Therefore, low priority recommendations are not included in this report.