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I. Introduction

1. The ICT Programme is a key support area within the UNWTO in the application of technology to facilitate the performance of its core work functions and one of the primary communication channels with internal and external stakeholders. This document provides a status report on the implementation of ICT programme of work and an outlook of the plans ahead.

2. ICT delivers services to more than 200 internal customers as well as Member States. ICT core functions include an in-house infrastructure of 25 servers, more than 250 networked computers, the management of the internal collaborative and information platform (INTRANET/EXTRANET), development and maintenance of the information systems and the integration of standard technological applications as well as personnel support and systems training. ICT also manages the organizational access and maintenance of personal computers, portable equipment including computers and peripherals as well as tablets and other portable devices. At the beginning of 2015 the technical and administrative management of the WEB services infrastructure has become a new responsibility under the scope of ICT in order to accommodate IT-based services into cloud-based solutions.

3. Progress and continual technological changes, increasing data security and system risk, and higher demands for reliability in the delivery of its services make the management of this area extremely challenging, in particular with a very limited staff base.

4. In accordance with CE/DEC/13(XCIV) the Executive Council welcomed the Secretary-General's initiative of keeping that body regularly informed on the ICT PoW strategy and developments. This report is set to fulfil these aims by providing a report for 2014-2015 and an outline of current/future ICT activities.

5. As was previously mentioned in the report of the 96th Executive Council, the Secretary-General approved the ICT proposal to conduct a second comprehensive technology audit in 2014. This is a continuation of the audit made in 2009. The outcome of this audit, which was conducted by Microsoft and whose executive summary with findings is attached (**Annex I**), is expected to provide clear direction in the development of ICT's strategic ICT plan through 2017.



6. As result of the recent Microsoft audit recommendations, one of the first actions was to move and consolidate the infrastructure governance of Web Services under ICT as well as the future development needs of the infrastructure, while keeping the web content within Communications. Thus the governance of Web Services is shared between the Communications Programme and ICT, requests for new services or changes are handled through the Communications Programme and are implemented by the ICT Programme. The platform of Web Services is on the cloud.

7. Another major action taken based on the recommendations of the audit was to create the internal Steering Committee on Technology (SCT) whose main goal is to define the Organizational response to technological challenges identified in audits report, defining its roadmap: priorities, objectives and activities. Of the 12 major actions identified on the Microsoft audit, the SCT decided to prioritize and focus on the first 6, conceptualizing and creating a roadmap for each one of the main 6 (see **Annex IV**). The committee is composed of stakeholders of the main areas of the Secretariat, with the chairmanship of the Director of Administration and Finance. The committee has held seven meetings since its creation in 2014.

II. Programme of work completed to date

8. Since the report provided at the 99th Executive Council (October 2014), specific projects have been implemented as of the date of this report. Results are shown in the table in **Annex II**.

III. Programme of work in progress (2015-2016)

9. As the report provided at the 99th Executive Council (October 2014), the specific projects mentioned in the table in **Annex III** are in progress. Expected results are outlined, taking into account the current ICT audit conducted by Microsoft and its recommendations.

IV. ICT strategy for 2016-2017

10. The audit report goes into greater detail on all the capabilities and workloads of the IO model, to support the key findings. It is important to highlight that many of these findings go beyond the sole responsibility of ICT and decisions need to be made at the Senior Management Team (SMT) level to take actions on some of these findings. The Steering Committee on Technology is responsible for submitting the necessary recommendations for Management decision-making.

11. As evidenced and verified through the Microsoft audit results, all prior findings reported to the 94th Executive Council have been addressed. Significant progress has also been achieved in many of the capabilities and workloads of the Core and the Business Productivity Infrastructures.

12. As was mentioned in the previous report, the Application Platform is the area where lesser progress has been made since the previous audit, and although a new financial information system has been developed based on formal development methodologies, many surrounding applications still need to be reconverted and an organization-wide application development model needs to be defined.

13. UNWTO should look into promoting a project management culture around all the activities, initiatives and projects it undertakes. This will help in the tracking of project progress, and overall management of resources.

14. The ICT Programme believes that the main core and business productivity infrastructure plans

were closed to completion with the projects planned to 2014-2015, and the focus will need to change urgently to create an Organization-wide data model for all UNWTO's managed data and application development.

15. In a rapidly evolving technology environment, a major set of issues which must also be addressed revolves around the security framework to preserve the integrity of the UNWTO's information assets and systems, while it expands to align to United Nations mandates and application of best practices.

16. With changes in the UNWTO's business structure and emerging technologies, ICT continues to adapt its role and structure in order to maximize service delivery and ensure user satisfaction.

17. ICT will have to regularly adjust its PoW to address these issues and provide the appropriate framework for continual change, compliance and planning to result in a revised two-year roadmap that will be presented at the next Executive Council. However challenging these assignments, strict resource control has to be observed, being one of the risks to address for timely completion of the programme of work.

18. The formulation of ICT's programme of work for 2015-2017 is based around the key findings of Microsoft's audit and recommendations. The goal proposals are summarized in the table in **Annex IV**.

V. Actions to be taken by the Executive Council

19. The Executive Council is invited:

- (a) To take note of the audit reports on the status of ICT activities in this document; and
- (b) To note the progress in the technology infrastructure already implemented by the Organization while acknowledging that a rapidly evolving technology environment and budgetary constraints represent a set of unique challenges in the near future.

Annex I. Executive Summary of the Microsoft Audit on Infrastructure Optimization Assessment on UNWTO

As part of the Partnership between Microsoft and the United Nations World Tourism Organization (UNWTO), on June 30th and July 1st 2009, Microsoft conducted an Infrastructure Optimization Assessment on UNWTO's Information & Communication Technology (ICT) area.

As part of the continued evolution of UNWTO's IT assets, ICT requested again that Microsoft ran a new assessment to compare progress against the maturity levels of 2009, focusing again on all three IO Models:

- Core Infrastructure Optimization (Core IO)
- Business Productivity Infrastructure Optimization (BP IO)
- Application Platform Optimization (APO)

This analysis, conducted between the days of May 7th and June 27th, also identifies, jointly in consensus with ICT, the future desired state of all capabilities and workloads of each IO model. This will help UNWTO in defining the future initiatives it must work on in order to reach a state where it is comparable to the desired maturity levels defined.

The results of the IO assessment look forward to helping UNWTO in:

- Aligning IT strategies to Business strategies.
- Identifying and structuring key initiatives for UNWTO's maturity evolution moving forward.
- Guarantee that the maximum benefits on UNWTO's technologies investment are being realized.
- Guarantee that a common approach to initiative development is followed in order to avoid effort duplication and that any solution provided is based on the knowledge of all the initiatives taking place and the strategy defined.
- Guarantee that the future development, deployment and operation of the solutions respond correctly UNWTO's business needs and its user needs.

Additionally, a special mention has to be made regarding the IO model itself, which has evolved from the previous assessment due to the appearance of the new megatrends in the industry like Cloud, Social Computing, Enterprise Mobility, etc. which didn't exist or weren't as relevant as today. This report also intends to help UNWTO understand their current state on these new trends and provide guidance on how to move forward in their adoption.

This report goes into greater detail on all the capabilities and workloads of the IO Model, to support the key findings below. It is important to highlight that **many of these findings go beyond the sole responsibility of ICT and decisions need to be made at the Senior Management Team level to take action** on some of these findings.

Key Findings:

General Improvement in Core IO and BPIO: There has been good improvement from the previous audit in 2009 on many of the capabilities and workloads of the Core IO Model and the Business Productivity IO Model as it is shown in the report. The Application Platform is still very much in the same Basic state as in the previous audit, and although a new financial information system has been developed based on formal development methodologies, still many surrounding applications need to be reconverted and an organization-wide application development model needs to be defined.

In the area of **Core Infrastructure**, the main findings are:

Virtualization. UNWTO has clearly embraced virtualization of all its workloads and implemented to an acceptable degree of monitoring, management and reporting of deployed systems. The Public Web is completely virtualized as well. This has helped UNWTO in consolidating into fewer physical servers the server footprint that existed in 2009, which in terms have help provide better availability and disaster recovery to the overall infrastructure.

Public Web Assets totally decoupled from ICT governance. The fact that ICT's infrastructure and the Public Web are deployed and managed by different entities (the former by ICT and the latter by an external provider not linked with ICT), makes it harder to maintain a total control of the server infrastructure regarding compliance, monitoring and reporting to upper management on the health status of services, as well as additional solution, administration and support costs. Moreover, it represents a risk to UNWTO as these assets are not governed at all by the organization's policies. The recommendation is to move and consolidate the infrastructure governance under ICT as well as the future development needs of this infrastructure, while the content publishing responsibility remaining with the Corporate Communications department. This means that all Public Web services would become ICT services and the Corporate Communications department would be its main customer.

Additional findings are a direct consequence or have a direct relationship with the previous finding:

- **Myriad of solutions for same purposes (no standardization) and use of commercial open source software.** it comes to our attention that UNWTO's has chosen many different virtualization, monitoring & management solutions, with apparently no interoperability / communications between them, based on commercial open source and/or community software, with no formal roadmap regarding their evolution and where additional services need to be purchased to get access to newer versions or support. This is aggravated by the fact that different solutions are in place to do the same thing whether on-premises or on the Public Web infrastructure, adding up to admin & support costs, as well as licensing costs. This represents both a risk and a high cost component as it requires a lot of effort to build a consolidated view of the platform. A TCO study around the true cost of these solutions (HW, SW, Administration, Support, etc.) against a centralized and unified platform should be done in order to validate whether a change of strategy is necessary. UNWTO should definitely work in consolidating and standardizing its Internal and Public Web assets.
- **Identity consolidation, synchronization and federation.** UNWTO should look into consolidating identities and using SSO for all of their IT assets be it internal or Public. This will require defining a directory synchronization and federation strategy between them in order to provide a true identity solution for cloud based services.

No Cloud culture. Although virtualization has been embraced at the core of the IT organization, there is no cloud culture or cloud awareness in terms of private, public and/or hybrid cloud, which is an area of opportunity UNWTO needs to move towards for many additional benefits to be gained in terms of flexibility, elasticity, scalability, disaster recovery, lower TCO, while at the same time enabling the organization to determine the real costs per UNWTO's department, which could eventually be used to create a chargeback model if desired.

Architecture design based on traditional architecture principles. The new cloud world has created newer architecture principles that UNWTO needs to be aware of with regards to Enterprise Architecture (for instance, multiple cheap storage pools vs. traditional SAN based storage), and which will need to be reflected on and decide on whether a strategy change is in order. These include changes in the following architectural areas:

- Infrastructure Architecture (Server, Network, Storage, Clients, etc.)
- Information Architecture (Collaboration, Social, Search, etc.)
- Solution Architecture (Application Infrastructure and Framework, Development Lifecycle, etc.)

Device mindset to User mindset. UNWTO has made important efforts in keeping its client platform updated, focusing principally on the device. A modern approach to client platform deployment puts the user in the center as the subject to manage, instead of the device. This impacts many traditional strategies around client platform management, including operating system deployment, software distribution, application virtualization, user state, roaming, etc. that need to be looked into by UNWTO. (Refer to the Persona Analysis suggestion mentioned in the “What’s Next” chapter).

IT Processes & Compliance. Although work has been done in order to define ICT’s Service Catalog and several policies have been put in place, there is still much work to do in this area, starting with the definition of clear Service Level Agreements and Operation Level Agreements, better Security monitoring, Problem, Change & Configuration Management and finally with Self-Service capabilities for users.

In the area of **Business Productivity Infrastructure**, the main findings are:

Lack of true Enterprise Mobility. In today’s cloud and devices world, it is uncommon for employees to request access to corporate assets from their devices to be able to keep up to speed with work at any time and from anywhere they are. UNWTO needs to improve its Remote Access Services and define a clear “Bring Your Own Device” strategy that will enable the majority of the organization (no only selected users) to be able to be more productive. Some work is under way on this area, but additional improvements are required to achieve this vision.

Moving Commodity based IT to Cloud based solutions. A lot of infrastructure has been deployed over the years which has been deemed Commodity IT by the industry for some time now. UNWTO should look into the benefits (TCO comparison) of Commoditizing IT Services to Hybrid Cloud solutions which can be operated by less that might be costing to have those services still on-premises. This applies mainly to Business Productivity Infrastructure solutions such as Messaging, Unified Communications, Collaboration & Content Management. If this is not the case, UNWTO should still look into upgrading its Business Productivity Infrastructure to the latest versions as many new trends and technologies have been incorporated. Some work is already under way in the latter, as recent projects being implemented go to towards achieving this (i.e. SharePoint 2013 upgrade)

No Social Computing Culture. In today’s world, the ability to share information in a “social manner” has crawled beyond the public social networks into the enterprise. Creating a true social culture in UNWTO will bring benefits in user productivity, innovation management, knowledge retention and subject matter experts identification.

Project Management & Portfolio Planning: A lack of formal project management and portfolio planning has been identified.

UNWTO should look promoting a project management culture in the organization around all the activities, initiatives and projects it undertakes. This will help in a much better resource management and project following for all the organization. Additionally, UNWTO should look into implementing a project portfolio management infrastructure, once a project management culture has been established, as this will help define priorities within the organization, based on UNWTO's resources and returned value delivered by the projects.

In the area of **Application Platform**, the main findings are:

No Data Culture. This area represents one of the biggest areas of risk and improvement for UNWTO. There isn't a comprehensive understanding of all the data existing in the organization. No organization-wide data model exists for all UNWTO's managed data. UNWTO needs to improve its *data classification, indexing, publishing, protection (encryption, rights management) and auditing* strategies for the organizational data. This will add value to the organization as will make users more "aware" of the data they can use and how to use it.

No Business Intelligence or Big Data culture: In today's competitive landscape, it is of utmost importance to be able to gather & process data almost in real time in order to take informed decisions on company strategy. UNWTO should look into creating a Business Intelligence platform and a Big Data platform that will take all the organization information as well as unstructured information found in the web to provide business analysts with better information on which to build UNWTO's publications and any other information assets it might need to build.

No Custom Development Framework and Lifecycle. UNWTO's current Application Infrastructure is based on siloed/monolithic applications with no interaction or communications between them. UNWTO should look into creating an organization wide Application Infrastructure & Development framework to work towards creating a more cohesive application environment, providing maximum value to the business.

21 July 2014

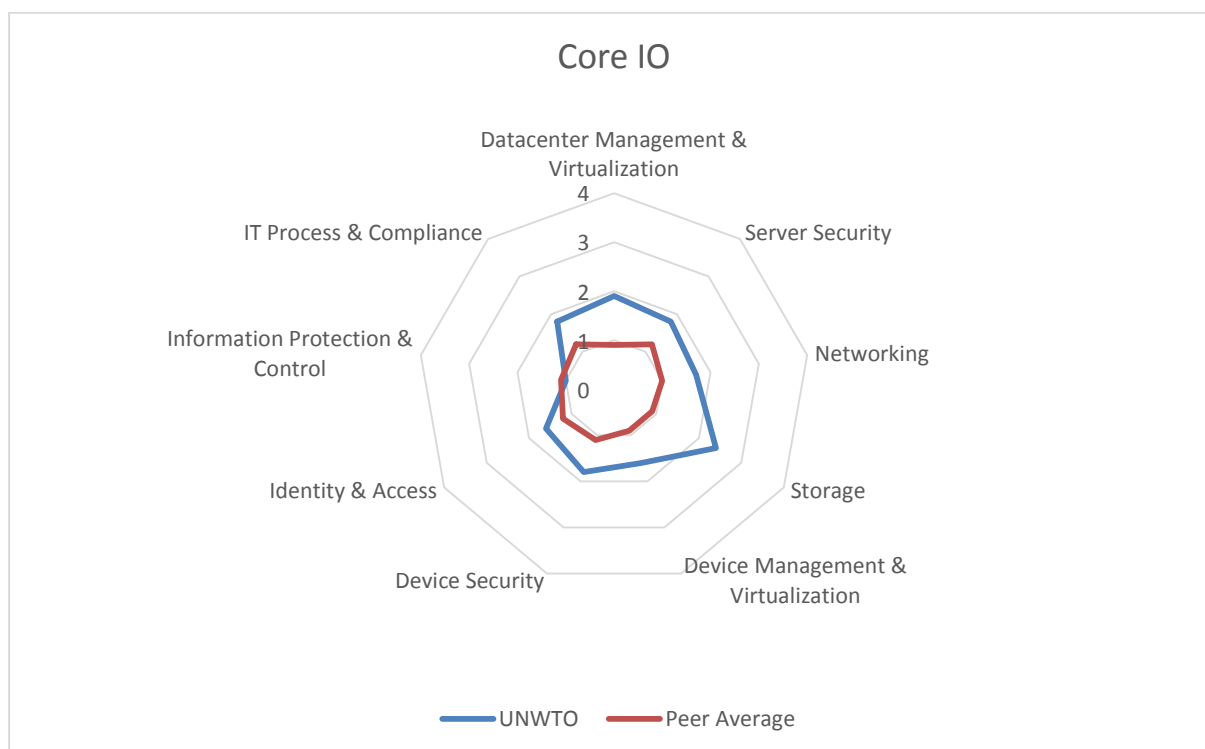
Following is an extract of the report entitled "United Nations World Tourism Organization Infrastructure Optimization Assessment" carried out by Microsoft Auditors whose original text is available in: <http://lmd.unwto.org/event/executive-council-ninety-ninth-session>

Core Infrastructure Optimization Profiles for UNWTO

Current Profile for ICT (AS IS)

Capabilities	Workloads	Workload Elements				Total
		Basic	Standardized	Rationalized	Dynamic	
Datacenter Management & Virtualization	Datacenter Management & Virtualization	2	9	1		12
	Server Security	1	4			5
	Networking	3	2	1		6
	Storage	1	3	4		8
Device Deployment & Management	Device Management & Virtualization	6	10			16
	Device Security	1	3			4
Identity & Security Services	Identity & Access	2	3			5
	Information Protection & Control	5				5
IT Process & Compliance	IT Process & Compliance	4	11	1		16
Total		25	45	7		77

Current Maturity Peer Review Comparison (ICT)

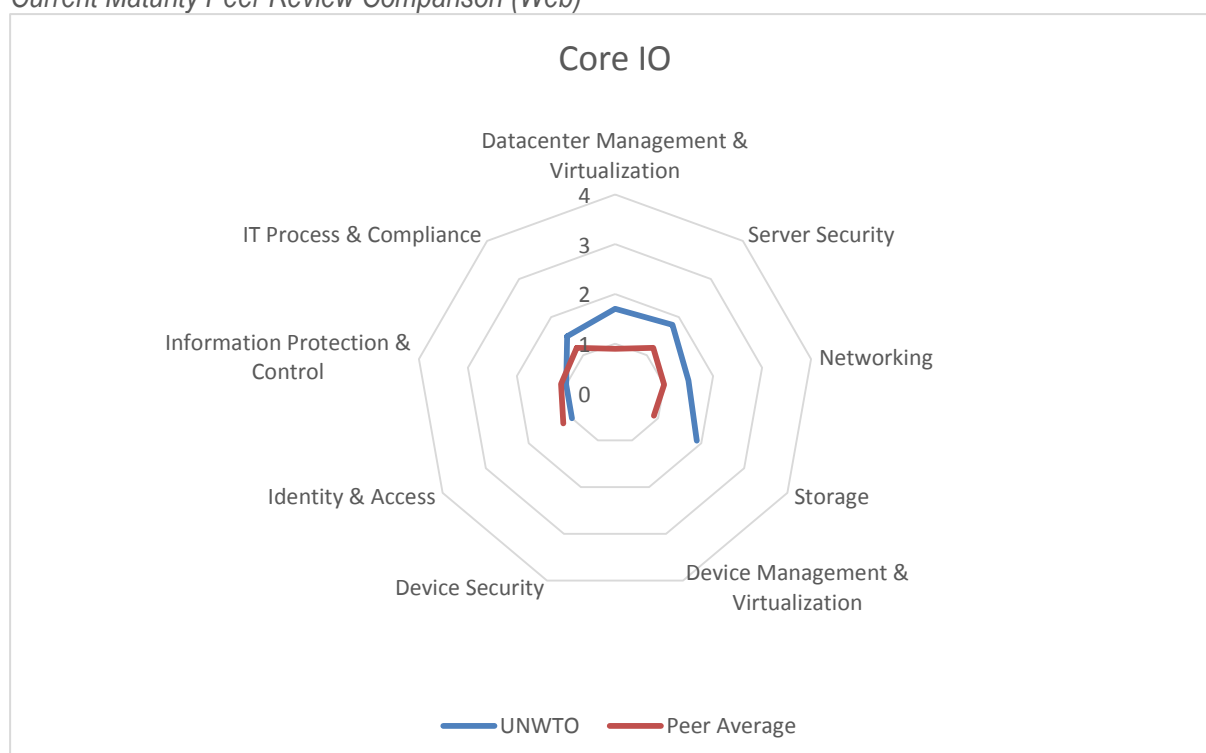


Comparison of current infrastructure optimization versus peer average performers in Nonprofit, from EMEA. The peer data is collected and aggregated from all participants using this tool. This data is maintained according to privacy policies and only presented in aggregate form: Basic - 1, Standardized - 2, Rationalized - 3, Dynamic - 4

Current Profile for Public Web (AS IS)

Capabilities	Workloads	Workload Elements				Total
		Basic	Standardized	Rationalized	Dynamic	
Datacenter Management & Virtualization	Datacenter Management & Virtualization	4	8			12
	Server Security	1	4			5
	Networking	3	3			6
	Storage	2	5	1		8
Device Deployment & Management	Device Management & Virtualization	N/A	N/A	N/A	N/A	N/A
	Device Security	N/A	N/A	N/A	N/A	N/A
Identity & Security Services	Identity & Access	5				5
	Information Protection & Control	5				5
IT Process & Compliance	IT Process & Compliance	8	8			16
Total		28	28	1		57

Current Maturity Peer Review Comparison (Web)



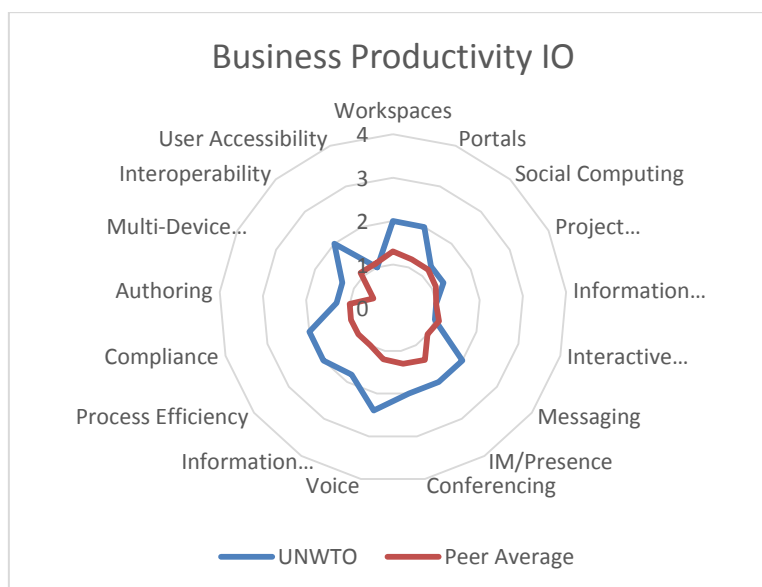
Comparison of current infrastructure optimization versus peer average performers in Nonprofit, from EMEA. The peer data is collected and aggregated from all participants using this tool. This data is maintained according to privacy policies and only presented in aggregate form:
 Basic - 1, Standardized - 2, Rationalized - 3, Dynamic - 4

Business Productivity Infrastructure Optimization Profiles for UNWTO

Current Profile for ICT (AS IS)

Capabilities	Workloads	Workload Elements				Total
		Basic	Standardized	Rationalized	Dynamic	
Collaboration	Workspaces	1	1	1		3
	Portals	1	2	1		4
	Social Computing	2	1			3
	Project Management	2	1			3
	Information Access	3				3
	Interactive Experience & Navigation	1				1
Messaging	Messaging	2	2	2		6
Unified Communications	IM/Presence		3			3
	Conferencing		3			3
	Voice		3	2		5
Content Creation & Management	Information Management	1	3			4
	Process Efficiency		3			3
	Compliance		2			2
	Authoring	2	1			3
	Multi-Device Support	2	1			3
	Interoperability		1			1
	User Accessibility	2				2
Total		19	27	6		52

Current Maturity Peer Review Comparison (ICT)

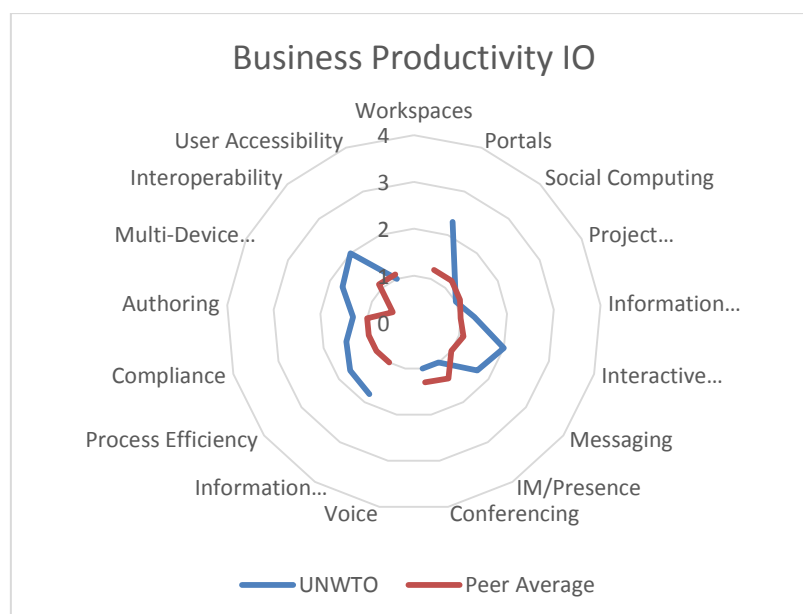


Comparison of current infrastructure optimization versus peer average performers in Nonprofit, from EMEA. The peer data is collected and aggregated from all participants using this tool. This data is maintained according to privacy policies and only presented in aggregate form:
 Basic - 1, Standardized - 2, Rationalized - 3, Dynamic - 4

Current Profile for Public Web (AS IS)

Capabilities	Workloads	Workload Elements				Total
		Basic	Standardized	Rationalized	Dynamic	
Collaboration	Workspaces	N/A	N/A	N/A	N/A	N/A
	Portals	1	1	2		4
	Social Computing	2	1			3
	Project Management	3				3
	Information Access	2	1			3
	Interactive Experience & Navigation		1			1
Messaging	Messaging	2		1		3
Unified Communications	IM/Presence	3				3
	Conferencing	3				3
	Voice	N/A	N/A	N/A	N/A	N/A
Content Creation & Management	Information Management	2	1	1		4
	Process Efficiency	1	2			3
	Compliance	1	1			2
	Authoring	2	1			3
	Multi-Device Support	2		1		3
	Interoperability		1			1
	User Accessibility	2				2
Total		26	10	5		41

Current Maturity Peer Review Comparison (Web)



Comparison of current infrastructure optimization versus peer average performers in Nonprofit, from EMEA. The peer data is collected and aggregated from all participants using this tool. This data is maintained according to privacy policies and only presented in aggregate form: Basic - 1, Standardized - 2, Rationalized - 3, Dynamic - 4

Application Platform Optimization Profiles for UNWTO

Current Profile for ICT (AS IS)

Capabilities	Workloads	Workload Elements				Total
		Basic	Standardized	Rationalized	Dynamic	
BI & Analytics Platform	Business Intelligence	6				6
	Data Warehouse Management	6				6
	Big Data	3				3
	Information Services & Marketplaces	4				4
Database and LOB Platform	Transaction Processing	2	2			4
	Data Management	2	1			3
	Application Infrastructure	5	1			6
Custom Development	Internet Applications	3				3
	Component & Service Composition	5				5
	Enterprise Integration	2				2
	Development Platform	1	1			2
	Application Lifecycle Management	5	1			6
Total		44	6			50

Current Profile for Public Web (AS IS)

Capabilities	Workloads	Workload Elements				Total
		Basic	Standardized	Rationalized	Dynamic	
BI & Analytics Platform	Business Intelligence	N/A	N/A	N/A	N/A	N/A
	Data Warehouse Management	N/A	N/A	N/A	N/A	N/A
	Big Data	N/A	N/A	N/A	N/A	N/A
	Information Services & Marketplaces	N/A	N/A	N/A	N/A	N/A
Database and LOB Platform	Transaction Processing	N/A	N/A	N/A	N/A	N/A
	Data Management	N/A	N/A	N/A	N/A	N/A
	Application Infrastructure	1	2			3
Custom Development	Internet Applications	1	1	1		3
	Component & Service Composition	N/A	N/A	N/A	N/A	N/A
	Enterprise Integration	N/A	N/A	N/A	N/A	N/A
	Development Platform	1	1			2
	Application Lifecycle Management	N/A	N/A	N/A	N/A	N/A
Total		3	4	1		8

Annex II. ICT Programme of work completed to date

AREA	ACTIVITY/PROJECT	RESULTS	DATE COMPLETED
Business Productivity Infrastructure / Enterprise Mobility	Mobility Services	<ul style="list-style-type: none"> Implement a new platform for management of remote control of mobile devices (MDM) Improve security procedures Define & Implement data protection policies BYOD implementation to improve the user experience at work -Phase I BYOD implementation to improve the user experience at work -Phase II ShareFile Service 	Completed 2015
Core infrastructure / Data Centre	ICT Consolidation & Services	<ul style="list-style-type: none"> DC Server migration from Microsoft Windows Server 2008 to Microsoft Windows Server 2012 Integration of old DC server cluster in only one VM DC Server to optimize the usage of the hardware Hardware server extension, focus on the virtual desktop project 	Completed 2015
Core infrastructure Data Centre Management	Business continuity planning	<ul style="list-style-type: none"> Updated contingency plan Expanded the infrastructure that supports the backup services. Full replication of main servers on different location than DPC 	Completed 2015
Core infrastructure / Data Centre	Web Services infrastructure	<ul style="list-style-type: none"> External full audit of the state of the Web Site infrastructure 	Completed 2015
Business Productivity / Content Creation & Management	Collaborative Platform INTRANET/EXTRANET platform	<ul style="list-style-type: none"> Improved and extended structures Provided a system of internal controls to allow for information sharing and author control (work flows) over content 	Completed 2015
Core Infrastructure / IT Process & Compliance	Implementation of IT Service Management best practices	<ul style="list-style-type: none"> Adopted of some ITIL published guidelines. ITIL provides a cohesive set of best practices, drawn from international public and private sectors and are in compliance with UN agencies standards 	Partly implemented Target completion 2016
Core Infrastructure / IT Process & Compliance	Organizational approval of document standards, document procedures to establish policies and guidelines	<ul style="list-style-type: none"> Approved existing drafts for document standards, document procedures, and proposed policies and guidelines Creation of new procedures of ICT internal controls 	Partly implemented Target completion 2015
ICT Priorities	ICT Training annual plan 2014	<ul style="list-style-type: none"> Continued to enhance technical competency of ICT staff through external training and certification 	Completed 2014

Annex III. ICT Programme of work in progress (2015-2016)

Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
Application Platform/ Information Systems	Enhancement of Athena requirements in collaboration with Budget & Finance	<ul style="list-style-type: none"> Two new modules of finance system information (Athena) based on IPSAS methodology – Phase II. Purchase Management and accounts payable modules. Maintenance of Athena I Databases & information systems affected by IPSAS regulations adapted 	Target completion 2016 / Ongoing
Core Infrastructure/ IT Services & Compliance	Printing services project	<ul style="list-style-type: none"> Consolidation of printing services Provide management control, accessibility and control over confidentiality of printed material Reduce printing costs Support greening policies Update printing equipment to ensure compatibility with implemented software Establish an internal workgroup to establish current UNWTO printing policies and procedures Conduct a competitive bidding process 	Target completion 2015-2016
Core Infrastructure / Device Deployment & Management	Telephony Services & mobility	<ul style="list-style-type: none"> Network improvements in security, devices management and quality of services Use of best technology practices 	Target completion 2016 / Ongoing
Core Infrastructure / IT Process & Compliance	Help Desk Platform	<ul style="list-style-type: none"> Implemented a centralized request service to maximize the use of ICT resources to the Organization. – Phase I. Improved security, productivity and reduced IT overhead 	Target completion 2016 / Ongoing
Core Infrastructure / Data centre Management & Virtualization	ICT Consolidation & services	<ul style="list-style-type: none"> Improved maintenance procedures, expansion and standardization Improved core server availability average (99.998%) Conducted performance optimization, operation and management of the virtualization platform 	Target completion 2016 / Ongoing
Core infrastructure / Data Centre Management	Web Services infrastructure	<ul style="list-style-type: none"> Change cloud service provider. Carry out consolidation of the new services and redo the entire infrastructure. Change of service provider technical support, new requirement definition 12x7 	Target completion 2015 / Ongoing
Core Infrastructure / Datacentre Management	Business continuity planning	<ul style="list-style-type: none"> Conduct a disaster recovery drill exercise 	Target Completed 2015
Application Platform / BI & Analytics Platform	Enterprise Data Model / Organization-wide Data Consolidation	<ul style="list-style-type: none"> Create an organization-wide data model for all UNWTO's managed data. Improve data classification, indexing, and publishing. Improve data protection (encryption, rights management, etc.) Define policies & procedures to data 	Target completion 2015-2016 / Ongoing

Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
		management <ul style="list-style-type: none"> Design auditing strategies for the organizational data 	
Core Infrastructure / Device deployment & Management	Desktop Virtualization project	<ul style="list-style-type: none"> Implement a client platform deployment that puts the user in the centre as the subject to manage, instead of the device Define policies and procedures to implement client platform management, including operating system deployment, software distribution, application virtualization, user state, etc. Conduct a competitive bidding process 	Target completion 2015-2016
Business Productivity / Collaboration	Collaborative Platform INTRANET/ EXTRANET Platform	<ul style="list-style-type: none"> Improve and extend structures Provide a system of internal controls to allow for information sharing and author control (work flows) over content Develop a knowledge management platform, self-service and reporting Implement search facilities Develop of new services Conduct a competitive bidding process if necessary 	Target completion 2015-2016 / Ongoing
Business Productivity	New UNWTO WebSite & enhancing current Social Media strategy	<ul style="list-style-type: none"> Hired Consultancy Company to produce a Web status report. Produce a terms of reference of Web assessment Conduct a competitive bidding process to hire a company to develop a new Web page 	Target completion 2015-2016 / Ongoing
Business Productivity / Collaboration	Digital signature project	<ul style="list-style-type: none"> Encourage the use of digital signature to support greening policies Streamline administrative processes Reduce costs 	Target completion 2016
Core Infrastructure / IT Process & Compliance	ICT Service Catalogue	<ul style="list-style-type: none"> Review of the ICT services policies and obtain SCT approval Implement services policies organization-wide Improve ICT's Service Catalogue with the definition of clear Service Level Agreements and Operation Level Agreements Improve security monitoring and problem & incidents management Design and define change & configuration management Create self-service capabilities for users 	Target completion 2015 / Ongoing
ICT priorities	ICT Training annual plan 2015	<ul style="list-style-type: none"> Continue to enhance technical competency of ICT staff through external training and certification 	Target Completion 2015 / Ongoing
ICT Services and compliance	Videoconferences and conferences services	<ul style="list-style-type: none"> Complete refurbishment of the Infrastructure of the nine floor. 	Target completion 2016 / Ongoing

Annex IV. ICT Programme of Work for 2015-2017

	KEY FINDING	Action to be taken	PRE - Requirements	Priority
1.-	<p>Public Web Assets totally decoupled from ICT governance. Direct consequences: - Myriad of solutions for same purposes, no standardization. - No Identity consolidation, synchronization and federation</p>	Move and consolidate the infrastructure governance under ICT as well as the future development needs of this infrastructure.	<ul style="list-style-type: none"> • Executive Management decision • Business vision 	Very High
2.-	<p>No Data Culture One of the biggest areas of risk. UNWTO needs to improve its data classification, indexing, publishing, protection (encryption, rights management) and auditing strategies for the organizational data</p>	Design & Implement an organization-wide data model for all UNWTO's managed data. (Enterprise Managed Data Model) to add value to the organization as will make users more "aware" of the data they can use and how to use it.	<ul style="list-style-type: none"> • Executive Management decision • Business vision • Data classification, Definitions, metrics • Information Governance • Organization and Roles • Information Life Cycle • Policies, Procedures 	Very High
3.-	<p>No Business Intelligence or Big Data Culture</p>	<p>Deploy a central data warehouse solution that can extract data from multiple operational or departmental databases and external sources using transactional systems and present multidimensional views of data to a variety of front-end BI tools.</p> <p>Implement a reporting platform and infrastructure.</p> <p>Design and deploy a BI infrastructure that simplifies the IT burden.</p>	<ul style="list-style-type: none"> • Executive Management decision • Business vision • Strategy • Project scope • Roles, Responsibilities 	Very High
4.-	<p>No Custom Development Framework and Lifecycle</p>	Implement an organization wide application infrastructure and development framework to work towards creating a more cohesive application environment, providing maximum value to the business.	<ul style="list-style-type: none"> • Executive Management • Business vision • Project scope 	High
5.-	<p>Lack of Project Management & Portfolio Planning Culture</p>	Promote a project management culture around all the activities, initiatives and projects it	<ul style="list-style-type: none"> • Executive Management decision 	High

	KEY FINDING	Action to be taken	PRE - Requirements	Priority
		undertakes. Implement an integrated solution, which is flexible and web-based approach to project management.	<ul style="list-style-type: none"> • Business vision • Project scope • Strategy • Polices 	
6.-	No Social Computing Culture	Promote social computing behavior inside UNWTO, which will help identify subject matter experts, while promoting better interactions between employees. This will impact in innovation and help retain knowledge inside the Organization.	<ul style="list-style-type: none"> • Executive Management decision • Business vision • Project scope 	High
7.-	Lack of true Enterprise Mobility. UNWTO needs to improve its Remote Access Services.	Improve Remote Access Services and define a clear "Bring Your Own Device" strategy that will enable the majority of the Organization to be able to be more productive.	<ul style="list-style-type: none"> • Business vision • Strategy • Polices 	High
8.-	Moving Commodity based IT to cloud based solutions	UNWTO should conduct a cost benefit analysis on Commoditizing IT services to Hybrid Cloud solutions	<ul style="list-style-type: none"> • Business vision • Project scope • Strategy • Polices 	High
9.-	Need to change from a Device mindset to user mindset	UNWTO must change its focus to offer a modern approach to client platform deployment puts the user in the center as the subject to manage, instead of the device. Desktop Virtualization project	<ul style="list-style-type: none"> • Business vision • Project scope • Polices • SLA's • Procedures 	High
10.-	Need improvements on IT Processes & Compliance	Improve ICT's Services Catalog with clear definition of Service level Agreements (SLA's) and Operation Level Agreements (OLA's) Improve security monitoring, problem, change & configuration management. Implement Self-service capabilities for users.	<ul style="list-style-type: none"> • Business vision • Polices • SLA's • OLA's • Procedures 	High
11.-	No Cloud culture	UNWTO needs to implement cloud culture or cloud awareness in terms of private, public and/or hybrid cloud. UNWTO should conduct a cost benefit analysis of this strategy.	<ul style="list-style-type: none"> • Business vision • Project scope 	Medium
12.-	Architectural design based on traditional architecture principles	The new cloud world has created newer architecture principles that UNWTO needs to be aware of with regards to Enterprise Architecture, and which will need to be reflected on and decide on whether a strategy change is in order.	<ul style="list-style-type: none"> • Business vision • Project scope • Strategy 	Medium