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I. Introduction

1. The ICT Programme is a key support area within the UNWTO responsible for the application of technology to facilitate the performance of its core work functions, including the WEB service infrastructure. The programme also provides one of the primary communication channels with internal and external stakeholders. This document provides a status report of the implementation of the ICT work plan and a description of future plans and innitiatives.

2. ICT delivers services to more than 200 internal customers as well as Member States. ICT's core functions include an in-house infrastructure of 42 servers, more than 260 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.

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 resources limited to 4 staff members, 2 collaborators and one student trainee.

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 2016-2017 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 follow-up comprehensive technology audit. 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.

II. ICT work plan completed to date

6. Specific projects that have been implemented to date, since the report submitted to the 104th Executive Council (October 2016) are shown in the table in **Annex II**.

III. ICT work plan in progress (2017-2018)

7. Current status of ongoing projects, first reported at the 104th Executive Council (October 2016), are included in the table of **Annex III**. Expected results are outlined, taking into account the current ICT audit conducted by Microsoft and its recommendations.

IV. ICT strategy for 2017-2018

8. 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.

9. 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.

10. 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.

11. The ICT Programme has focused on the need to create an Organization-wide data model for all UNWTO's managed data and application development. Currently several alternatives are being evaluated to decide on the best ICT strategy with special emphasis on the need to have the Organization focused in a digital transformation environment. A Public Tender was conducted to introduce an Enterprise Information Management system in UNWTO. Unfortunately the results of this activity did not provide a feasible financial option. Consequently, we are in the process of identifying other UN organizations that have already completed this task, so that we may "piggy back" with their Public Tender and contract services directly with a Provider. Should this not be feasible, ICT will be faced with the need to conduct a second Public Tender with modified technical requirements.

12. In a rapidly evolving technology environment, a major set of issues that 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. An audit of the current ICT infrastructure is planned for the second half of 2017.

13. 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. Major CDP enhancements to its optimum performance, and security compliance through the physical housing upgrades has provided increased security, improvement in equipment availability, and potential growth to accommodate organizational future needs.

14. ICT has had to regularly adjust its PoW to address the previously mentioned issues to provide the

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appropriate framework for continual change, compliance and planning. A revised two-year roadmap to address the Microsoft audit findings and recommendations originally planned for development in 2017, has been rescheduled for development in 2018, due to a 25% reduction in personnel availability during the 2016-2017 period. ICT is expected to have its personnel available in full for the remainder of 2017.

15. The formulation of ICT's work plan for 2015-2018 is based on 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

16. 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.

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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 of 2014, 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 positive improvement from the previous 2009 audit in 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.

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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 mind-set to User mind-set. 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 centre 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 Catalogue 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, and 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.

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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

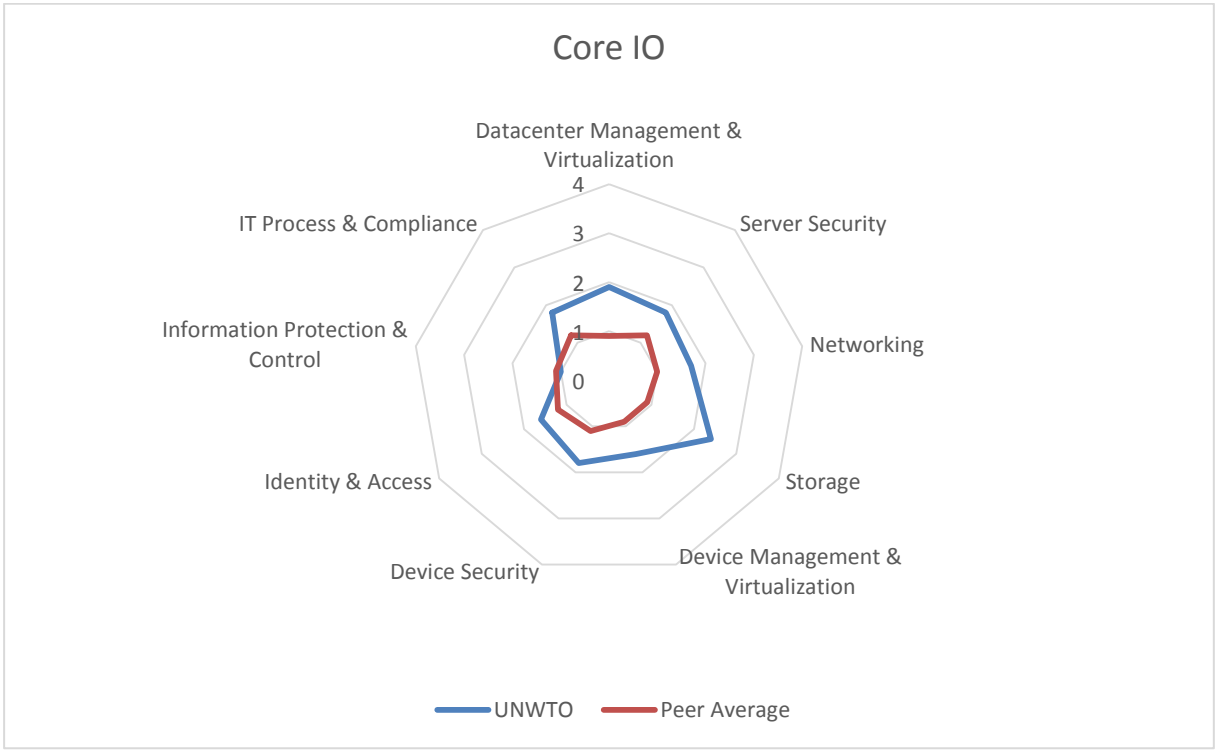
Following is an extract of the report entitled "United Nations World Tourism Organization Infrastructure Optimization Assessment" carried out by Microsoft Auditors whose original text is available in: http://lmd.unwto.org/event/executive-council-ninety-ninth-session

Core Infrastructure Optimization Profiles for UNWTO

Current Profile for ICT (AS IS)

		Workload Elements				
Capabilities	Workloads	Basic	Standardized	Rationalized	Dynamic	Total
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 Non-profit, 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

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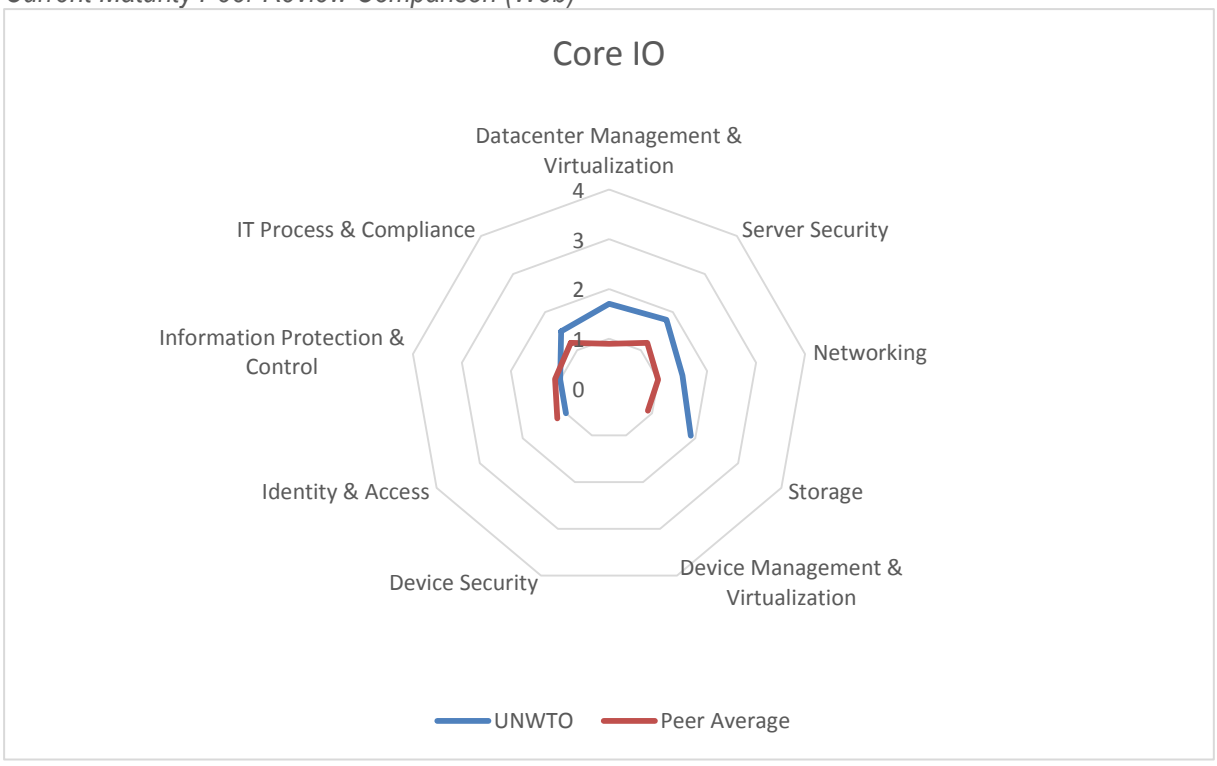
Current Profile for Public Web (AS IS)

		Workload Elements				
Capabilities	**Workloads**	**Basic**	**Standardized**	**Rationalized**	**Dynamic**	**Total**
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)



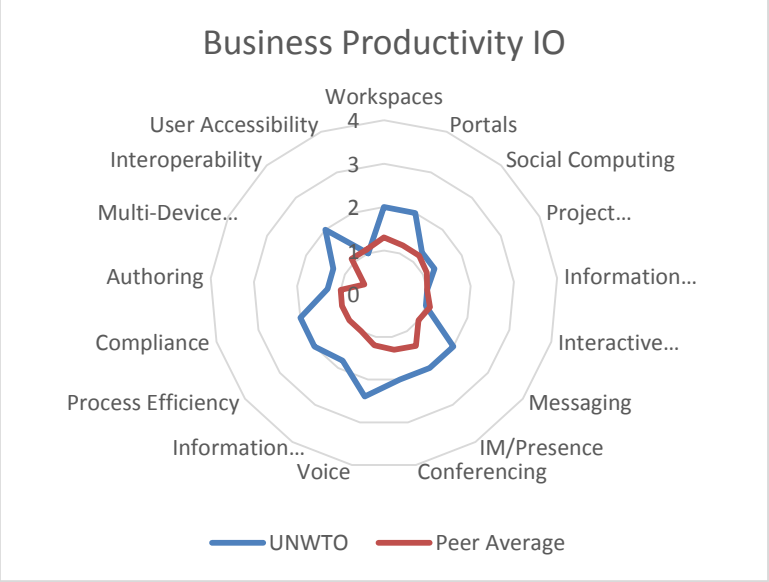
Comparison of current infrastructure optimization versus peer average performers in Non-profit, from EMEA. The peer data is collected and aggregated from all participants using this tool. This data is maintained according to privacy policies and only presented in aggregate form:
Basic - 1, Standardized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

Business Productivity Infrastructure Optimization Profiles for UNWTO

Current Profile for ICT (AS IS)

		Workload Elements				
Capabilities	**Workloads**	**Basic**	**Standardized**	**Rationalized**	**Dynamic**	**Total**
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)



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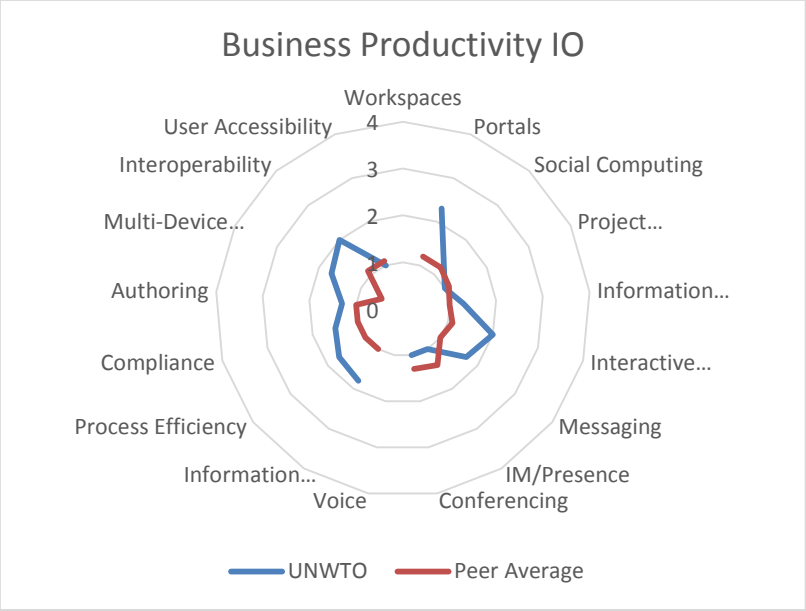
Current Profile for Public Web (AS IS)

		Workload Elements				
Capabilities	**Workloads**	**Basic**	**Standardized**	**Rationalized**	**Dynamic**	**Total**
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)



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Basic - 1, Standardized - 2, Rationalized - 3, Dynamic - 4

Application Platform Optimization Profiles for UNWTO

Current Profile for ICT (AS IS)

		Workload Elements				
Capabilities	**Workloads**	**Basic**	**Standardized**	**Rationalized**	**Dynamic**	**Total**
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)

		Workload Elements				
Capabilities	**Workloads**	**Basic**	**Standardized**	**Rationalized**	**Dynamic**	**Total**
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 work plan completed to date

AREA	ACTIVITY/PROJECT	RESULTS	DATE COMPLETED
Business Productivity Infrastructure / Enterprise Mobility	Mobility Services	• Improved security procedures • Define & Implement data protection policies • ShareFile Service implemented	Completed 2016
Core infrastructure / Data Centre	ICT Infrastructure Consolidation & Services	• Migration to Exchange 2013 • SQL Server upgrade 2016 • CPD Room upgrade / optimization • Acquisition of 45 desktop computers and 20 laptops (renewal plan 2016) • Expansion of storage capacity of the server cabin • Enargement of the mail server hardware • Optimization of the virtual server of Antispam • Expand of telephony service due to users necessities • Improvement in network security: Firewall upgrade (including users recognition, content and malware filtering) • Upgrade the wifi system for security improvements and new functionalities	Completed 2016-2017
Core infrastructure Data Centre Management	Business continuity planning	• Updated contingency plan • Conducted a disaster recovery drill exercise • Strategic rethinking of backup copy outsourcing • Consolidated procedures, controls, reports and monitoring of security backups • Optimization of the backups system	Completed 2016-2017
Core infrastructure / Data Centre	Web Services infrastructure	• Changed cloud service provider. • Introduction of a new external technical support company, new requirement definition 12x7 • Software updated • Improved security procedures	Completed 2016
Business Productivity / Content Creation & Management	Collaborative Platform INTRANET/EXTRANET platform	• Improved and extended structures and sections • Provided a infopath new capabilities and SQLdata connection	Completed 2016-2017
Application Platform / Enterprise Information Management	Enterprise Information Management System	• Analysis & market research for the selection of the Enterprise Information Management tool. • Conduct a competitive bidding process to hire a company to develop a new platform	Completed 2016
Core Infrastructure / IT Process & Compliance	Help Desk Platform	• Implemented a centralized request service to maximize the use of ICT resources to the Organization. – Phase I. • Improved security, productivity and reduced IT overhead	Completed 2016

Core Infrastructure / IT Process & Compliance	Organizational approval of document standards, document procedures to establish polices and guidelines	• Updated documents in both operations and services areas: standards, document procedures, and proposed polices and guidelines • Creation of new procedures of ICT internal controls	Target completion 2016
ICT Priorities	ICT Training annual plan 2016	• Continued to enhance technical competency of ICT staff through external training and certification	Completed 2016

Annex III. ICT work plan in progress (2017-2018)

Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
Application Platform/ Information Systems	Enhancement of Athena Requirements in collaboration with Budget & Finance	• Developments of modules of the UNWTO Financial Management IT System (Athena II plan) which comprises: a) purchase management , b) accountable payables • Maintenance of Athena I • Integration of Athena with the new Enterprise Information Management System	Target completion 2018 / On-going
Core infrastructure / Data Centre / cloud based solutions	ICT infrastructure consolidation	• Migration of Oracle 11 to Oracle 12 • Conduct a cost benefit analysis and feasibility study on commoditizing Oracle services to hybrid cloud solutions	Target completion 2017
Core infrastructure / Data Centre / cloud based solutions	ICT infrastructure consolidation	• Conduct a cost benefit analysis and feasibility study on commoditizing Exchange services to hybrid cloud solutions • Conduct a cost benefit analysis and feasibility study on commoditizing MSOffice services to hybrid cloud solutions (MS365)	Target completion 2018
Core infrastructure Data Centre Management	Business continuity planning	• Conducted a disaster recovery drill exercise	Target completion 2017
Core infrastructure Data Centre / Identity & security services	Security Plan	• Security audit of the ICT Infrastructure, Services & Information • Implementation of good practices	Target completion 2017
Core Infrastructure/ IT Services & Compliance	Printing services project	• Close bidding process • Consolidation of printing services • Provide management control, accessibility and control over confidentiality of printed material • Reduce printing costs • Support greening policies	Target completion 2017 Ongoing
Core Infrastructure / Device Deployment & Management	Telephony Services & mobility	• Close bidding process on Fix telephony service • Network improvements in security, devices management and quality of services • Use of best technology practices	Traget completion 2017 / Ongoing
Business Productivity Infrastructure / Enterprise Mobility	Mobility services	• Migration to a new MDM system with more functionalities (the initial system has lack of user functionalities) • Improve security procedures • Define & Implement data protection policies	Target completion 2017 / Ongoing
Core Infrastructure / IT Process & Compliance	Help Desk Platform	• Implemented a centralized request service to maximize the use of ICT resources to the Organization. – Phase II. • Improved security, productivity and reduced IT overhead	Target completion 2017 / Ongoing
Core Infrastructure / Data centre Management & Virtualization	ICT Consolidation & services	• Improved maintenance procedures, expansion and standardization • Improved core server availability average (99.998%)	Target completion 2017 / Ongoing

Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
		• Conducted performance optimization, operation and management of the virtualization platform	
Core infrastructure / Data Centre Management	Web Services infrastructure	• Conduct a competitive bidding to hire a company to develop a new Customer Relationship Management System (CRM) • Develop and implement a new CRM	Target completion 2018 / Ongoing
Application Platform /Enterprise Information Management	Enterprise Information Management System	• Develop and implementation of a new Enterprise Information Management platform with Opentext. Fase I	Target Completed 2017 / Ongoing
Application Platform / BI & Analytics Platform	Enterprise Data Model / Organization-wide Data Consolidation	• 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 management • Design auditing strategies for the organizational data	Target completion 2017-2018 / Ongoing
Core Infrastructure / Device deployment & Management	Desktop Virtualization project	• 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 2017-2018
Business Productivity / Collaboration	Collaborative Platform INTRANET/ EXTRANET Platform	• Improve and extend structures • Develop a knowledge management platform, self-service and reporting • Improve search facilities • Develop of new services • Conduct a competitive bidding process if necessary	Target completion 2017-2018 / Ongoing
Business Productivity	New UNWTO WebSite & enhancing current Social Media strategy	• Conduct a competitive bidding process to hire a company to develop a new Web page. • Develop and Implement a new UNWTO institutional WEB page	Target completion 2017-2018 / Ongoing
Business Productivity / Collaboration	Digital signature project	• Encourage the use of digital signature to support greening polices • Streamline administrative processes • Reduce costs	Target completion 2018
Core Infrastructure / IT Process & Compliance	ICT Service Catalogue	• Review of the ICT services policies • 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	Target completion 2017 / Ongoing

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Area	ACTIVITY/PROJECT	EXPECTED RESULTS	EXPECTED COMPLETION DATE
		& incidents management • Design and define change & configuration management • Create self-service capabilities for users	
ICT priorities	ICT Training annual plan 2017	• Continue to enhance technical competency of ICT staff through external training and certification	Target Completion 2017 / Ongoing

Annex IV. ICT work plan for 2015-2018

	KEY FINDING	Action to be taken	PRE - Requirements	Priority
1.-	**Public Web Assets totally decoupled from ICT governance**. Direct consequences: - Myriad of solutions for same purposes, no standardization. - No Identity consolidation, synchronization and federation	Move and consolidate the infrastructure governance under ICT as well as the future development needs of this infrastructure.	• Executive Management decision • Business vision	Very High
2.-	**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	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.	• Executive Management decision • Business vision • Data classification, Definitions, metrics • Information Governance • Organization and Roles • Information Life Cycle • Polices, Procedures	Very High
3.-	**No Business Intelligence or Big Data Culture**	Deploy a central data warehouse solution that can extract data from multiple operational or departamental databases and external sources using transactional systems and present multidimensional views of data to a variety of front-end BI tools. Implement a reporting platform and infrastructure. Design and deploy a BI infrastructure that simplifies the IT burden.	• Executive Management decision • Business vision • Strategy • Project scope • Roles, Responsibilities	Very High
4.-	**No Custom Development Framework and Lifecycle**	Implement an organization wide application infrastructure and development framework to work towards creating a more cohesive application environment, providing maximum value to the business.	• Executive Management • Business vision • Project scope	High
5.-	**Lack of Project Management & Portfolio Planning Culture**	Promote a project management culture around all the activities, initiatives and projects it undertakes.	• Executive Management decision • Business vision	High

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	KEY FINDING	Action to be taken	PRE - Requirements	Priority
		Implement an integrated solution, which is flexible and web-based approach to project management.	• 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.	• 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.	• 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	• 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	• 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.	• 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.	• 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.	• Business vision • Project scope • Strategy	Medium