Digital & Technology Network (DTN) Session Report
World Health Organization Headquarters, Geneva
31 October – 1 November 2022

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Digital & Technology Network - Autumn Session, 2022

Summary
The agenda for DTN’s autumn session placed emphasis on the need to define common metrics that bring organizations together, or otherwise help to identify frameworks by which they can be defined. Keynote speakers provided rich context for plenary discussions that followed on digital transformation, pointing to the pivotal role ICT plays in the achievement of the SDGs and the role of CIOs to help chart a path forward. Further interventions underlined the value of working in concert towards common aims that may be defined as either ICT-driven, or digital in nature.

Presentations received from Google Cloud and Forrester Research led to engaging discussion on different approaches for organizations to consider as they define success, benchmark performance and measure progress. Plenary discussions focused on emerging priorities and common approaches to cloud strategy, digital transformation, ICT operating models, preparing for opportunities presented by digital money, the environmental footprint of UN Data Centres and a way forward for the ERP community. A plenary discussion on ICT operating models in the UN system and the role of UNICC led to the recommendation for HLCM to consider the need to undertake a review of UNICC’s governance and mandate. Recognizing that many topics touched upon during this session have influence over organizations’ digital interests, the DTN decided to extend the invitation to the DTN’s spring session to Chief Digital Officers.

The network approved terms of reference put forward for new working groups seeking common approaches to CRM, ERP, Digital Transformation and Cloud Adoption. In addition, the network tasked UNICC to lead a sub-group of the Cloud Adoption working group to investigate the UN Private Cloud opportunity. In addition to the approval of its revised terms of reference, UNISSIG was tasked to refine recommendations presented within an updated cybersecurity baseline and to develop guidance on secure messaging capabilities and social media monitoring. The ERPSIG community received confirmation of its emphasis on cross-functional coordination, the provision of business as a service and the scope of a proposed ERP study. A revised ERPSIG terms of reference received posthumous approval.

Following her assumption of new duties within UNIDO, the network conveyed its gratitude to Ms. Ana Paula Nishio de Sousa for her valuable contribution as DTN Co-Chair during the past three sessions. The election of Ms. Shirin Hamid (IMF) as DTN Co-Chair received the unanimous approval of the DTN membership. The network approved the gracious invitation of Ms. Hamid to host the DTN’s 2023 spring session at IMF headquarters in Washington D.C..

Introduction
The Digital and Technology Network (DTN) held its 2022 autumn session at WHO headquarters in Geneva between 31 October and 1 November. This session was Co-Chaired by Mr. Bernardo Mariano Junior (UN) and Ms. Ana Paula Nishio de Sousa (UNIDO). In attendance of 58 participants, new members were welcomed from UNICEF, UNIDO, WMO, IFAD and IAEA. The agenda was adopted without changes.

Dr. Tedros Adhanom Ghebreyesus (WHO Director-General) opened the meeting, underlining the transformative role digital technologies have on how organizations now achieve programmatic goals, deliver services and run business operations. The DTN was recognized as playing a key role in enhancing collaboration between UN organizations, both in terms of improving our work and in addressing risks.
In her keynote speech, Ms. Doreen Bogdan-Martin (Director, Telecommunication Development Bureau and ITU Secretary-General elect) provided background on the digital coalitions being established, including a multistakeholder alliance launched by ITU to support the UN Secretary-General’s Roadmap for Digital Cooperation by fostering meaningful connectivity and digital transformation globally.

UN Envoy on Technology, USG Amandeep Singh Gill, shared his insight into how the organizations need to leverage digital technologies to accelerate progress on the sustainable development goals. USG Gill spoke to the importance of establishing the right partnerships, with the right governance and processes in the pursuit of both internal efficiencies and maximization of programmatic impact. In addition to closer internal collaboration and increased sharing of resources, the network was encouraged to consider potential partnerships from the beginning, particularly in new and emerging fields of technology.

**Digital Transformation**

The topic of Digital Transformation advanced discussion points raised in previous meetings and included external presentations (from Google and Forrester Research), an update from the Digital Transformation working group and plenary discussions driven by expert analysis which recognized the need for close coordination in this area.

**Google**

Introducing the topic of Digital Transformation, Ms. Alexis Bonnell (Google) provided her insights into what she has learned at Google and how it will change the way she approaches technology, information and culture when she returns to Public Service. Ms. Bonnell shared her insight on a range of topics, including: the drivers of transformation and the evolution of system owners to become information stewards; hallmarks of transformation and how to measure it; demands of a mobile and modern workforce and how CIOs help shape it; data driven decision-making and why most problems encountered tend to be location based. This presentation and the plenary discussion that followed considered the need to understand what technology aims to solve and how to translate this to an organization’s mission. The concept of UN 3.0 was introduced by explanation and demonstration of an organization that is data-driven, empowers its workforce to collaborate, establishes trust through security, serves the needs of staff and customer alike and is responsive by being digitally available. Recognizing that CIOs are ultimately the agents of change driving Digital Transformation, culture was seen as critical, as well as the biggest roadblock to progress.

**Forrester Research**

Mr. Pascal Matzke (Forrester Research) discussed trends in how organizations are moving towards a 'future fit' technology strategy by being adaptive, creative and resilient. This presentation went into detail on how ICT strategy will reset the pace and focus of technology investments around new platforms, practices and partnerships and how this will reshape approaches to innovation, change management and talent management over the course of time. Mr. Matzke addressed how the use of predictive analytics, flexible technologies and a change-able organization will help organizations to deal with perpetual change. IT was seen as necessary to break down silos through cross-functional teams and how to encourage collaboration by creating a change-confident culture that exhibits behaviors necessary for success. This presentation underlined how future fit organizations excel by orchestrating value across their partner ecosystems and by shifting from managing traditional supplier relationships towards enabling strategic co-innovation partnerships.
Digital Transformation Working Group
At its April 2022 session, the DTN established a working group on digital transformation, to be led by UNJSPF. Aims of this group included proposing a working definition and scope of digital transformation, surveying the UN system, researching best practices, identifying/proposing key performance indicators and critical success factors, and identifying alignment with the UN Secretary-General Data Strategy. Accordingly, Mr. Dino C. Dell’Accio (UNJSPF), Lead of the Working Group on Digital Transformation presented the results of a short survey submitted to collect preliminary data across the UN Community about Digital Transformation initiatives implemented and/or to be implemented in the near future.

Thirteen organizations responded to the survey. Just over half of respondents (54%) responded their organization had a clear digital transformation strategy, while 61.5% responded their senior leadership approved a clear mandate for implementing digital transformation initiatives. 61.5% responded their organization had a definition of what success looks like and 84.6% responded they referenced the United Nations Secretary-General’s data strategy. 40% responded Business drivers influenced their digital transformation journey, while half reported good collaboration with the Business Transformation Unit in their organization. A discussion ensued on the significance of these results and how they may feed into the priorities of the working group. The terms of reference for this new working group were presented and approved.

Mr. Sunil Gupta (CTBTO) presented CTBTO’s Digital Transformation Strategy and proposed a digital maturity assessment benchmarking tool. This aid demonstrated the creation of value through digital transformation by providing a gap assessment and a readiness assessment, which in turn led to an organization-wide digital strategy roadmap, a reliable foundation from which to launch digital transformation. Mr. Christopher Larsson (UNICEF) explained how digital transformation and innovation fundamental change strategies toward UNICEF are achieving its 2030 targets. Preliminary findings from stakeholder consultative discussions were shared with the network, highlighting that the most pressing areas of need for a successful Digital Transformation included new digital expertise, embracing emerging technologies, digital interoperability, workflow and process coherence and addressing the digital divide. UNICEF recognized that it is not sufficient to enable and optimize, but instead seeks to employ digital transformation to transform the organization.

Outcomes
- DTN took note of reference materials presented by the DTN working group on Digital Transformation, including DTN survey results, the Digital Transformation Strategy & Scorecard and Blockchain Maturity Model (BMM) Requirements
- DTN approved the Terms of reference for DX working group, with the addition of “digital assets’ to the scope
- Tasked DX working group to propose key metrics to support a uniform measurement of organization maturity and progress on the path to digital transformation
- DTN agreed to invite Chief Digital Officers to the next DTN session and to participate in the Digital Transformation working group. Members to provide CDO contact details to DTN Secretary

Cloud Adoption Working Group
The mission of the Cloud Adoption working group is to support the implementation of organizational mandates by exploiting cloud technologies and business models in support of organizations’ digital transformation, as per Secretary General’s Common Agenda and Quintet of Change. Co-Chair Ms.
Francesca Duri (WIPO) provided an update on recent meetings from this group. Mr. Erzen Ilijazi (UN Secretariat) provided the network with an update on the Microsoft (Unified Support) UN Secretariat contract and framed the discussion that followed on a UN private cloud with context on the use of private cloud for the United Nations and use of edge computing.

A themed discussion ensued on whether a UN private cloud provides opportunity for an exit strategy for existing on-premises data centres, or even our existing public cloud service. There was widespread agreement that the move to cloud should not be positioned as a cost saving opportunity, but rather as an opportunity for cost optimization or to increase value for money. It was widely accepted that moving to the public cloud is more appropriately justified by other objectives, including improved security, availability, scalability and business continuity and that organization specific factors help determine the value, scope and sustainability of cloud offerings. The need to provide guidance was highlighted in the context of implementing cloud for programmatic delivery.

While there was general agreement on the need to address the related JIU recommendation to consider a cloud vendor exit strategy, discussions also raised concerns with the term. Situations vary widely among organizations and members highlighted that vendor lock-in may be inevitable and that using SaaS products in programmatic delivery may be neither sustainable nor appropriate. Discussions considered the opportunity to build a private cloud and whether it could represent a suitable alternative to the public cloud or part of an exit strategy. During the discussion the Chair proposed to launch an assessment of existing capacity of data centers, at least a Tier 3 and Tier 4 level to assess the potential establishment of a UN private cloud and in edge computing.

It was concluded that instead of pursuing an exit strategy, the network should seek to identify and minimize risks associated with cloud adoption, including but not restricted to vendor lock-in. The need for common criteria to help identify risks across the wide spectrum of cloud implementations, adaptable to organizations specific contexts and thereby help inform decision making was instead identified as the desired outcome. The Cloud Adoption working group co-chairs proposed that this activity be pursued by a sub-group of the DTN Cloud Adoption and led by UNICC, which is already a member of the group.

Outcomes

- Tasked UNICC to lead a sub-group of the Adoption Group (CA) investigating the UN Private Cloud opportunity.
- Topics of further evaluation to be prioritized by the CA working group include procurement, cost control and Finops, to enhance visibility into cloud cost and value derived from investments.
- The CA working group tasked to develop common criteria and recommended practices that address cloud-related risks
- The terms of reference for the Cloud Adoption sub-group were approved.

**ICT Operating Model in the UN System and the Role of UNICC**

This item addressed operationalization of the Mutual Recognition Statement through UNICC and considered supply chain operational guidance (SR5 Acquire through Cooperation with UN Organizations) and guidance from the HLCM on sourcing to acquire contractual arrangements through cooperation with UN organizations for the use of services provided by UNICC.

This plenary discussion opened with the Co-Chair positing whether organizations are mature enough to affect the mutual recognition of ICT services and if the mandate and capacity of UNICC as an inter-agency
mechanism serve to adequately address current needs. Benefits ascribed to UNICC, as a member of the UN family providing services as a partner (as opposed to procuring as a vendor) and positioned as the provider of services defined by its membership were well recognized by the network.

Conclusions steered towards the need to empower UNICC with stronger governance, in order to more effectively advance mutual recognition. In point of fact, the mandate of UNICC was defined over 50 years ago in an era of mainframe and data centre support, while its role has evolved to become the intermediary for the procurement of shared and managed services. It was underlined that being unable to operate as an independent legal entity severely limits UNICC’s ability to negotiate privileges and immunities on behalf of UN system organizations.

Outcomes
- DTN recommends HLCM to consider, as appropriate, the need to initiate a process of informal consultations to review the General Assembly Resolution 2741 (XXV) (17 December 1970), in order to ensure UNICC’s mandate and governance effectively reflect current and future opportunities and priorities, also in light of the need for mutual recognition.

**CRM Working Group**
At its previous session, DTN established a new Working Group (led by UNJSPF) to identify and share best practices about the adoption and implementation of Customer Relationship Management (CRM) systems. Accordingly, Mr. Dino C. Dell’Accio, Lead of the the working group on CRM, presented the results of a short survey submitted to collect preliminary data across the UN Community about “CRM systems” implemented and/or planned.

24 organizations responded to the survey. Almost half have implemented a CRM in the last five years. Of these, 42% of CRM systems focused on CSM and 55% on both internal and external clients. 68% of the respondents who have not implemented a CRM yet plan to do so shortly. Qualitative feedback provided insight into lessons learnt, identified risks, KPIs used and synergies between DTN members. The majority recognized an opportunity for collaboration between the various DTN Members on CRM systems when it comes to contract sharing. Key findings of this exercise were shared, and their significance discussed in plenary. UNICEF presented its lessons learned from the implementation of a CRM solution. The terms of reference for this new working group were circulated and approved by the network (ex-post facto).

Outcomes
- DTN approved Terms of Reference put forward by the CRM working group

**ERP Special Interest Group**
ERPSIG Chair Luca Baldini (IOM) reminded members that the purpose of the ERPSIG is to promote cooperation and knowledge sharing among those UN and sister organization that have implemented ERP tools. The UN wide digital transformation initiatives, the rapid advancements in Cloud platform, the demand for real time data and analytics strategy and the inevitable move to cloud have presented a compelling case to review and establish an annual convening of the ERPSIG community. The agenda of ERPSIG has traditionally reflected most organizations ERP implementations and likewise comprised SAPSIG and CABIO communities.

SAPSIG & CABIO Chairs Mr. Massimiliano Merelli (WFP) and Mr. Marthinus Johannes Greyling (UNHCR), respectively, provided the network with an update on recent developments, including a proposed ERP
Mapping Exercise and ERP Study, to be led by WFP & UNHCR and a new structure for the community summarized in a revised term of reference. The proposed approach introduces working streams to align and optimize business processes across the UN, streamline the use of ERP platforms resulting in cost effective and sustainable solutions and to keep pace with the ICT innovation.

Outcomes
- DTN approved the proposed ERP Mapping Exercise and ERP Study, to be led by WFP & UNHCR.
- After formatting changes, DTN approved the revised ERPSIG terms of reference (ex post facto).

Greening the UN
Mr. Jacob Halcomb (UNEP) presented an overview of the Sustainable United Nations (SUN), an initiative of UNEP launched in 2008. SUN aims to assist the UN system to reform towards climate neutrality and environmental management with tools, methodologies and technical assistance to enable the integration of sustainable development principles. Mr. Halcomb shared the vision as one of becoming a leader in integrating environmental and social sustainability considerations across its work in a systematic and coherent way, practicing the principles that it promotes and leaving a positive legacy. An overview of the Green ICT Working Group, led by UNICC and ITU, was presented in the context of its upcoming cloud study.

Mr. Saiful Ridwan (UNEP) provided the network an overview of the UN Greening the Blue initiative, which reports annually on the environmental footprint of the UN. Currently, this report does not explicitly cover data centres, even though studies have shown that data center energy consumption continues to increase globally. The Blue Cloud initiative was introduced to address this gap and assess the environmental footprint of data centres in the United Nations. The main objective of the Blue Cloud initiative is to become an integral part of the Greening the Blue initiative. As part of the approach, which includes the identification of simple metrics and standards specific to data centres in this area, a pilot survey was shared for feedback before launching more widely with UN entities.

Outcomes
- DTN requests UNEP to continue refining the pilot survey and engage closely with the cloud adoption WG,
- DTN requests UNEP to align with the UNICC sustainability / green team to respond to the request for UNICC to consider adding a service to assist organizations in computing their carbon footprint.

Preparing for Digital Money
Co-Chairs of UN Treasury Working Group, Mr. Hans Baritt (UNHCR) and Ms. Carmen Hett (UNHCR) addressed the need to prepare for the future of digital money. Mr. Baritt informed the network on how an end-to-end blockchain enabled donation system (that accepts all forms of value transfers in a secure, traceable and compliant way) has helped prepare the way for an integrated delivery of humanitarian assistance. Members were updated on recent initiatives addressing the digital money provides, including a second future of finance event themed on the future of money and moreover, solutions implemented and proven to provide humanitarian assistance in the field. The rising significance and benefits offered by crypto payment solutions were demonstrated by the influx of institutional players entering the space, the rise of stable coins and the increasing maturity of leading organizations.

Recent discussions within the FBN concluded by underlining the need to ensure UN organizations share lessons learnt and provide staff learning opportunities. Ms. Carmen Hett (UNHCR) explained how the UN Financial Gateway as a proven initiative ready to scale, supports these aims by providing the necessary
financial infrastructure. Powered by the digital hub of treasury solutions and supported by UNICC, this financial gateway provides the means necessary to effect centralized payments.

In conclusion, organizations need to catch up, common solutions are now required and significant initiatives ready to scale have proven their utility. Collaboration that traverses the traditional boundaries defined by functional networks is proposed to help UN organizations level up in terms of expertise necessary and for the system to flourish and take the initiative to lead by example.

Outcomes

- DTN agreed to include digital money as a regular item on its agenda and to seek opportunities for the sharing of technical expertise and lessons learnt in this area of increasing importance.

UN Information Security Special Interest Group (UNISSIG)

UNISSIG Co-Chairs Sachiko Hasumi (IOM) and Hans de Jong (IAEA) presented the outcomes of UNISSIG working groups established to pursue priorities as set by DTN. These included the revision of the Cybersecurity Minimum Baseline, as well as to investigate: a common approach to cloud security; a common baseline of technical and procedural security controls to protect PII; a mapping of existing classification levels in the UN system to baseline controls; a common methodology for security assessments; further guidance on minimum operating cybersecurity standards for services and Zero Trust as a consideration for the DTN.

Cybersecurity Minimum Baseline

In December 2021, the network introduced the UN system baseline minimum cybersecurity standard. During this session members approved its revision, based on recommendations received from the UN Information Security Special Interest Group (UNISSIG) with adaptations later approved. This update builds upon the widespread acceptance of the initial baseline and goes further to strengthen the collective resilience of UN system organizations confronting an increasing number of high-profile incidents, breaches and cyber-attacks.

Recommendations (detailed in the Annex) divide into three sections, namely: the cybersecurity program, technical best practices and information security incident management. This revision recognizes that organizations will adapt their security programs in line with their own risk appetite, mandate and requirements. DTN tasked UNISSIG to review this baseline on a regular basis.

Cybersecurity Threat Intelligence

Mr. Thomas Braun (UN Secretariat) updated members on Cybersecurity Threat Intelligence, a Microsoft initiative. Modelled on existing programmes that Microsoft maintains with CERTs of member states, this initiative comes free of charge and consists of (a) cybersecurity threat intelligence, (b) assistance with CTI processing and automation, and (c) skilling. Microsoft intends to make this available to all UN system organizations and asked UN Secretariat to act as a broker.

Social Media

Mr. Alexandre Trofimov (WTO) presented the network the state of play, regarding secure messaging capabilities and current practices. This presentation went into detail on issues of privacy, confidentiality, and enterprise sustainability of instant messaging platforms. Mr. Trofimov recommended DTN investigate security risks related to the use of instant messaging platforms for official communications and to
establish a point in time assessment of current situation in the industry, with scorings and common recommendations.

Complementing this analysis of social media platforms, Mr. Peter Fizelle (ADB) presented on the topic of identity fraud and social media monitoring of impersonation. Impersonations are seen on all major social media platforms and raise the specter of reputational damage or fraud. While commercial options to identify impersonations exist and counter measures are available and often employed, such steps are not fool-proof and legal processes can sometimes prove a challenge. Mr. Fizelle proposed further analysis be undertaken on risks impersonations represent, to ensure adequate prevention and detection controls and that agencies consider adoption of UNICC’s common secure service as an interim solution.

Outcomes
DTN approved:

- Proposed changes to UNISSIG Terms of Reference, to align UNISSIG membership with DTN membership.
- The definition of Zero Trust put forward by UNISSIG.
- UNISSIG engagement in Finance and Budget Network cross-functional working group to: Develop a common approach to the threat of Ransomware & UNISSIG engagement in HLCM’s dialogue on Data Management
- Creation of Field Presence Working Group, led by UNHCR.

DTN committed to revert to UNISSIG with detailed feedback, to further refine recommendations as considerations (as opposed to standards) in the following areas:

- Zero Trust
- Common approach to cloud security

DTN took note of the following papers:

- Classifications and controls mapping
- Common methodology on security assessments in support of mutual recognition

DTN recommends members consider joining Microsoft UN Cyber Resilience Programme, led by UN Secretariat.

DTN tasked UNISSIG to consider cross-functional aspects in the development of recommendations

- DTN proposes UNISSIG to constitute a Working group on Instant Messaging, to:
  - Develop a white paper analyzing security risks related to the use of instant messaging platforms for official purposes.
  - Provide recommendations based on a point-in-time assessment of the current situation in the industry
- DTN proposes further analysis be undertaken by UNISSIG on the risks posed by impersonations, to ensure appropriate controls. Agencies may consider adoption of UNICC’s common secure service as part of the solution.
- Constitute UNISSIG Working Group Field Presence (led by UNHCR)
- UNISSIG Co-Chairs and other interested UNISSIG members to join cross-functional Working group PII, to ensure that security aspects are part of the recommendations
• UNISSIG Co-Chairs and other interested UNISSIG members to join cross-functional Working group Ransomware, to develop a common approach to the threat of ransomware ensure that security aspects are part of the recommend
• UNISSIG Co-Chairs and other interested UNISSIG members to join cross-functional Working group Data Management to ensure that security aspects are part of the recommendations

**Logistics and Planning**

• DTN approved the election of Ms. Shirin Hamid, (CIO, IMF) as DTN Co-Chair
• Accepted the invitation of IMF to host the DTN 2023 spring session, in Washington D.C.
• The DTN session was followed by a WHO-hosted webinar on the digital accessibility journeys of International Organizations. During this conversation, which included Co-Chair Bernardo Mariano Junior, the decision was made to add digital accessibility to DTN’s spring 2023 agenda.
Annex I - DTN Minimum Baseline for Cybersecurity – Revised

In December 2021, the DTN introduced the UN’s first baseline minimum cybersecurity standard, as a first step towards strengthening our collective cybersecurity resilience. The number of high-profile incidents, breaches and cyber-attacks is on the rise, where attackers leverage low-hanging-fruits in terms of unpatched systems or systems that were missing basic security controls. The minimum cybersecurity standard will support UN organizations in their journey to align, and where appropriate certify, to international standards such as ISO 27001/2.

The UNISSIG was tasked to review, refresh and expand that standard. This document represents the outcome of the Working Group tasked with this revision.

Principles Behind the Revised Approach

1. Recognize and build upon the achievement of the DTN in December 2021 in creating our first UN-wide standard for minimum security controls. Follow a gradual approach, so that the minimum security baseline is regularly reviewed and updated when practical, rather than immediately “shooting for the stars”.
2. Support UN agencies in their journey to meet and where appropriate certify to international standards such as ISO 27001, picking from international standards key elements which we should all aim for.
3. However, we are not recommending adoption of a single international standard such as the ISO 27000 series across the UN, not because this is not a desirable goal, but because (a) different standards make better sense for different UN agencies (b) we are at very different places on our journey. For some is a reality today, for others an aspiration, but for many this would be impossible and therefore exclusionary.
4. We need something we can all get behind and deliver. It should be aspirational but achievable in principle (subject to risk-based business prioritization) in the next 2-3 years for 90% or more of UN organizations. However, organizations must still adopt and adapt their security programs in line with their risk appetite, mandate and requirements.
5. The standard is intended to be simple, clear and high level.
6. The minimum baseline has to be complemented by a business-driven, risk-based discussion on adequate levels of consideration and implementation.

Revised Baseline Proposal

The expanded and updated security baseline is structured in three top level sections: the cybersecurity program, technical best practices and information security incident management. The sequence of the DTN version has been changed but the content retained.
1. Cybersecurity program
Organizations should have:
   a) defined cybersecurity governance and reporting;
   b) defined cybersecurity strategy and goals
   c) explicit cybersecurity policies in place;
   d) a dedicated cybersecurity function, with clearly defined roles and responsibilities, that
      fulfils the second line of defence function (as per CEB/2014/HLCM/14/Rev.1).
Organizations should have a security awareness process where:
   e) All users receive regular information security awareness training, in line with their roles and
      responsibilities;
   f) Phishing exercises are executed regularly.
Organizations should ensure that their risk management methodology:
   g) explicitly includes cyber risk management;
   h) includes a consistent vendor risk management approach with Procurement, including
      information security requirements in both vendor selection and on-going reviews;
   i) includes the evaluation of risk tolerance level upon how cloud applications and/or
      outsourcing IT services providers handle and access the organization’s sensitive
      information.

2. Cybersecurity (technical) best practices
Organizations should:
   a) maintain an inventory of organization-owned devices, systems, and applications;
   b) ensure organization-owned devices and systems are regularly updated;
   c) ensure organization-developed applications follow a consistent secure development
      lifecycle approach, and legacy applications are decommissioned wherever possible;
   d) implement basic email security controls to prevent own email domains being spoofed or
      communication altered in transit;
   e) implement security headers for public facing websites;
   f) enable multi-factor authentication (MFA) following a risk-based approach, given
      commercial and technical constraints; all accounts that access systems via the internet
      should be configured with MFA;
   g) implement access control for all non-public resources;
   h) adopt just in time for privileged access management;
   i) perform regular vulnerability assessments on all connected devices (servers, systems,
      platforms);
   j) perform regular penetration and/or security assessment tests on applications and
      perimeters, according to an agreed risk-based cycle;

3. Incident Detection and Response
Organizations should:
   a) implement incident detection solution to identify intrusions in organization systems using
      industry standard detection or better tools;
   b) ensure incident response processes and tools are in place (e.g. a SOC) either in-house or
      out-sourced.
Annex II - Attendance

DTN Co-Chairs
- Ms. Ana Paula Nishio, UNIDO
- Mr. Bernardo Mariano Junior, UN Secretariat

Keynote Speakers
- USG Amandeep Singh Gill, UN Secretariat
- Ms. Doreen Bogdan-Martin, ITU
- Dr. Tedros Ghebreyesus, WHO

Attendees
- Alvaro Flores Diaz, ICJ-CIJ
- Anders Norsker, ITU
- Christian Larsson, UNICEF
- Dennis Cleary, OPCW
- Dino Cataldo Dell’Accio, UNJSPF
- Doug Greene, UNHCR
- Eilish O'Neill, IFAD
- Ekaterina Zizekalova, CEB
- Elena Tomuta, UNCTAD
- Erzen Iljiæi, UN
- Fabrice Boudou, WTO
- Francesca Duri, WIPO
- Gaël Lams, ITC-ILO
- Geoff Okao, UNICEF
- Imai Jen-La Plante, GCF
- Jason Slater, UNIDO
- Jay Mahanand, WFP
- Kaan Cetinturk, UNRWA
- Karl KALEJS, WIPO
- Kristina Egund, UNOPS
- Lindita Bare, WFP
- Luca Baldini, IOM
- Marietta Muwanga-Ssevume, IOM
- Muhammad Ismail Sabir, UN Women
- Ng Chong, UNU
- Omar Baig, UNESCO
- Panayiotis Longinos, FAO
- Petra Margot Marshall, ILO
- Rania Abou Chakra, WMO
- Remo Lalli, CEB
- Richard Maciver, CEB
- Saiful Ridwan, UNEP
- Sameer Chauhan, UNICC
• Shirin Hamid, IMF  
• Soren Thomassen, UNFPA  
• Sunil Gupta, CTBTO  
• Tushar Arvind Dighe, UNOPS  
• Vincent Job, IOM

Presenters
• Mr. Alexandre Trofimov, WTO  
• Ms. Carmen Hett, UNHCR  
• Mr. Hans Baritt, UNHCR  
• Mr. Hans de Jong, IAEA  
• Mr. Jacob Halcomb, UNEP  
• Mr. Marthinus Johannes Greyling, UNHCR  
• Mr. Massimiliano MERELLI, WFP  
• Mr. Peter Fizelle, ADB  
• Ms. Sachiko Hasumi, IOM  
• Mr. Thomas Braun, UN Secretariat

External Participants
• Alexis Bonnell, Google Cloud  
• Alex Moussavi, Google Cloud  
• Christopher Nam, Google Cloud  
• John Harvey, Google Cloud  
• Katherine Tobin, Google Cloud  
• Pascal Matzke, Forrester Research  
• Pierre-Olivier Drevillon, Forrester Research