

Centre de Calcul El-Khawarizmi - CCK

www.cck.rnu.tn



E-AGE 2016 - Beirut, 1 - 2 December, 2016



Outline

- What is CCK?
- Where are we today?
- Where are we heading?



What is CCK?



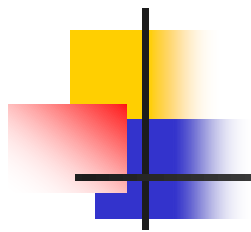
Centre de Calcul El-Khawarizmi

- Created in 1976
- The first 20 years, provided computing services for the research and education communities
- Since 1997, the official Internet Service provider for the research and education communities



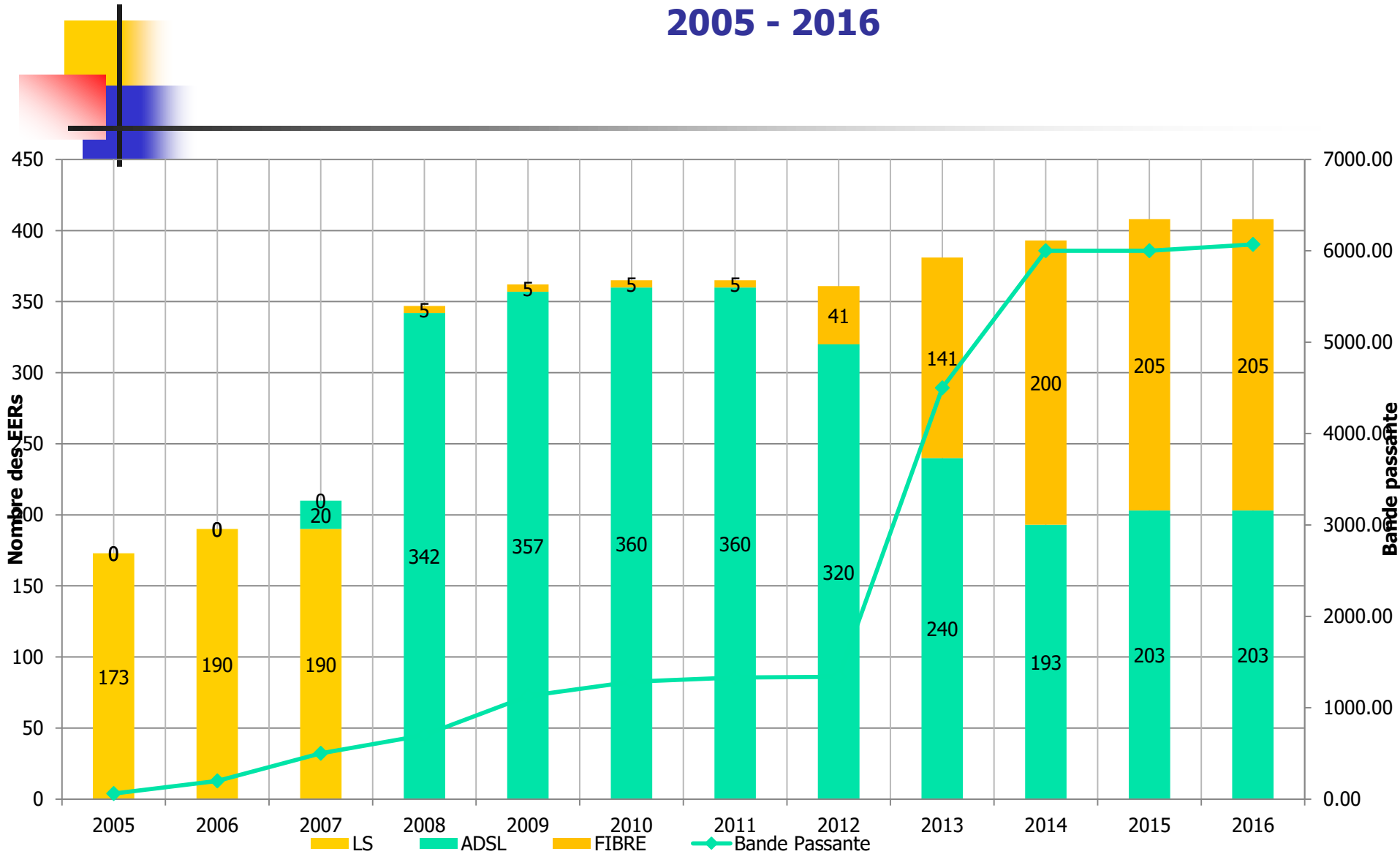
CCK as an ISP

- NREN management (core and access equipments)
- Applications Service Provider
- Internet Services
- Security services
- Consulting and advisory role services
- Training
- Observatory role of technological and scientific development in IT in the academic field



Where are we today?

Evolution of bandwidth and number of connections 2005 - 2016

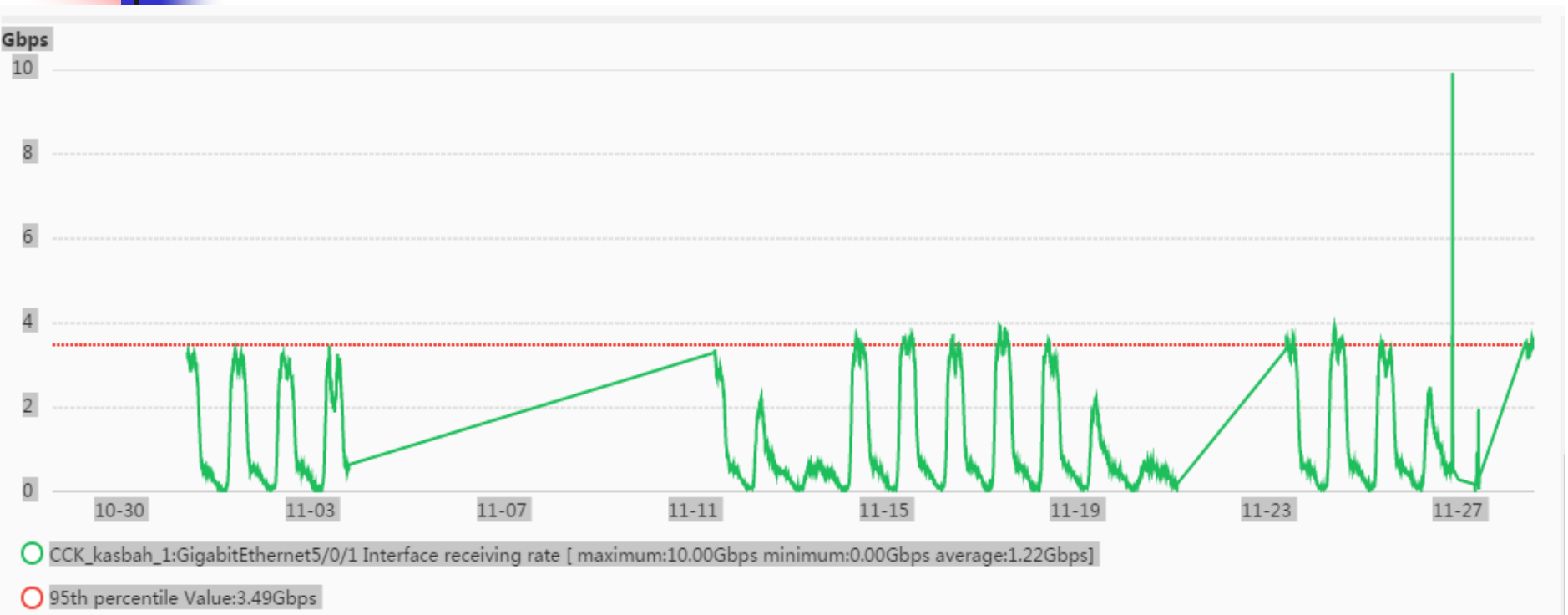




RNU: The Tunisian NREN

- 10 Gbps backbone since December 2014
- All Higher Education and Research institutions & centers are connected with Fiber optic links (205 sites)
- Some dorms and University restaurants are on corporate ADSL and will be migrated to fiber starting 2017
- Over 7 Gbps of total access capacities

International Bandwidth



International bandwidth:

- > 3 Gbps in November 2015
- > 4 Gbps in November 2016



Hardware Resources (computing and storage)

- Servers:
 - Over 100 racked servers
 - (2 Quad-core proc/server)
- Storage:
 - Over 100 Tera Bytes



Services

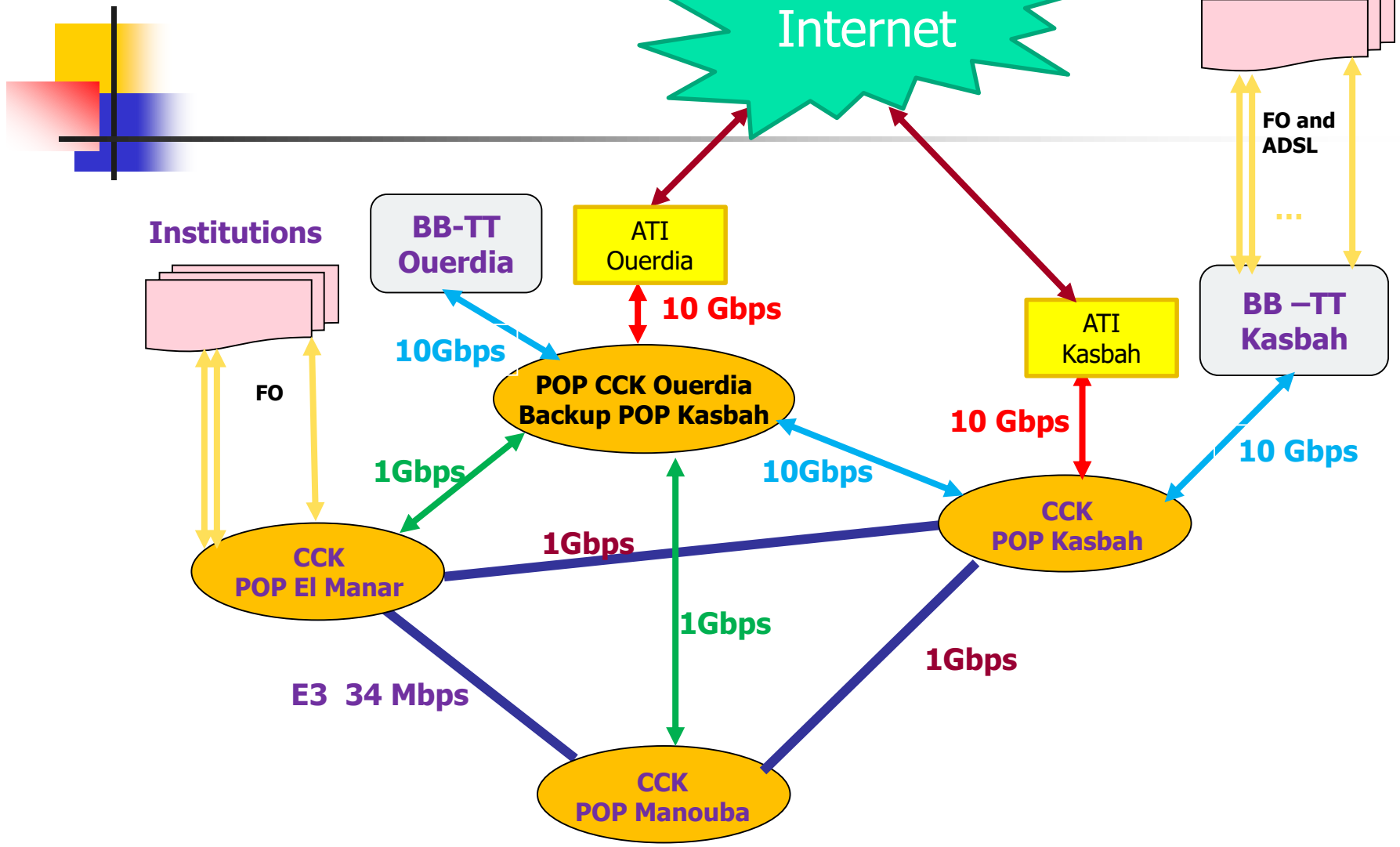
- Web hosting: several hundreds web portals
- Email
 - 28000 Faculty and staff (+ 300 000 étudiants)
- SMS services (80000 bacheliers / nearly 200 000 sms)
- Antivirus/VPN/Firewall/Access control
- User Technical Assistance
- Applications services
 - E-registration (www.inscription.tn), Orientation (www.orientation.tn), Salima (www.salima.rnu.tn), e-library (www.biruni.tn), BEST (www.best.rnu.tn),
 - Entrance to Engineering schools (www.cningénieur.rnu.tn), ONOU (www.ooun.rnu.tn; www.oouc.rnu.tn; www.oous.rnu.tn)

The logo graphic consists of a vertical black line on the left, with a yellow square at the top, a red square below it, and a blue square at the bottom. The word "Zimbra" is written in a blue, sans-serif font to the right of the line.

Zimbra

- Deployment of Zimbra email and collaboration platform (September 2016)
 - Unified, secure and user friendly collaboration platform
 - Cloud ready
 - Synchronization with mobile terminals (iPhone, Android ...)
 - Plenty of server and storage resources

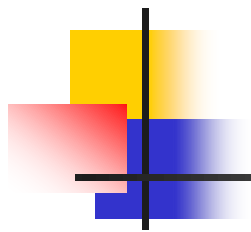
2015 RNU Backbone





RNU management

- Open source tools
 - CACTI – Collecter et établir des métriques de performance des serveurs et des équipements réseaux (avant MRTG puis Zabbix)
 - RT – Request Tracker (user support)
 - RANCID – Really Awesome New Cisco confIg Differ (Configuration management of network equipments)
 - Netdot – Network Documentation Tool
- eSight (Huawei)
- Infovista (FO monitoring, TT operator platform)



Where are we heading?



Vision

- Make the Tunisian NREN, a global platform providing IT services, supporting the productivity and efficiency of the academic community, facilitating collaborations and enabling increased innovation



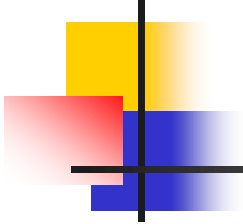
Datacenter

- Current Infrastructure is a 2nd platform type
 - Client/server Architecture (Static assignment of resources)
 - Several servers per Application/Service
- Migrate to a datacenter providing an Infrastructure of the 3rd platform type (project in progress)
 - Making use of agile technologies (virtualization, cloud)
 - Adapted to cloud provisioning, mobility, social networks, and Big Data



Other projects

- Progressive Deployment of IPv6
- Africa Connect 2 Project
 - Deployment of 1 Gbps dedicated circuit to GEANT
- HPC project
 - Speed: 100 Tera flops
 - Second half of 2017
- Regular organization of seminars and training workshops, in collaboration with academic community



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