itSMF MAGYARORSZÁG

Felhő alapú üzemeltetési feladatok optimalizálása

itSMF Magyarország 11. szeminárium

2015. Október 30.

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Microsoft

Bemutatkozás

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Microsoft Magyarország Kft.

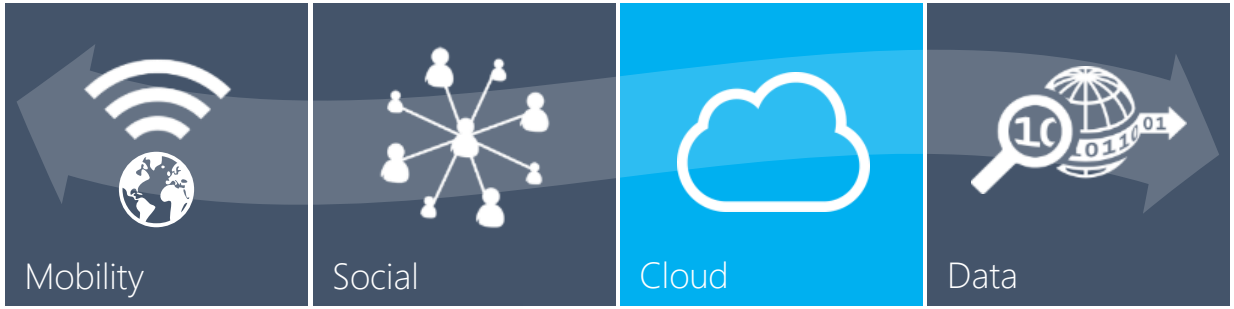
A mai előadás célja

- **Felhívni a figyelmet a Felhő alapú szolgáltatások, technológiák alkalmazásához kapcsolódó folyamat és emberi/személyzeti feltételek fontosságára.**

- Kiemelni azokat a területeket, amelyek **alapvetően érintettek.**

- **Bemutatni** azt, hogy az ITSM terület ezirányú fejlesztésében **milyen kezdeti lépések megtételére van szükség** (Microsoft alapú megközelítés szerint).

IT Megatrends



Cloud computing strategy

The strategy for unleashing the potential of cloud computing in Europe outlines actions intended to deliver a net gain of 2.5 million jobs and a boost of €160 billion to the EU GDP by 2020

The strategy is designed to stimulate the uptake of cloud computing across all sectors of the economy

>70% of CIOs will embrace a cloud-first strategy in 2016

54% of organizations plan to increase public cloud spending in 2013

Spending on Big Data:

$10 billon 2013 > $20 billion 2016

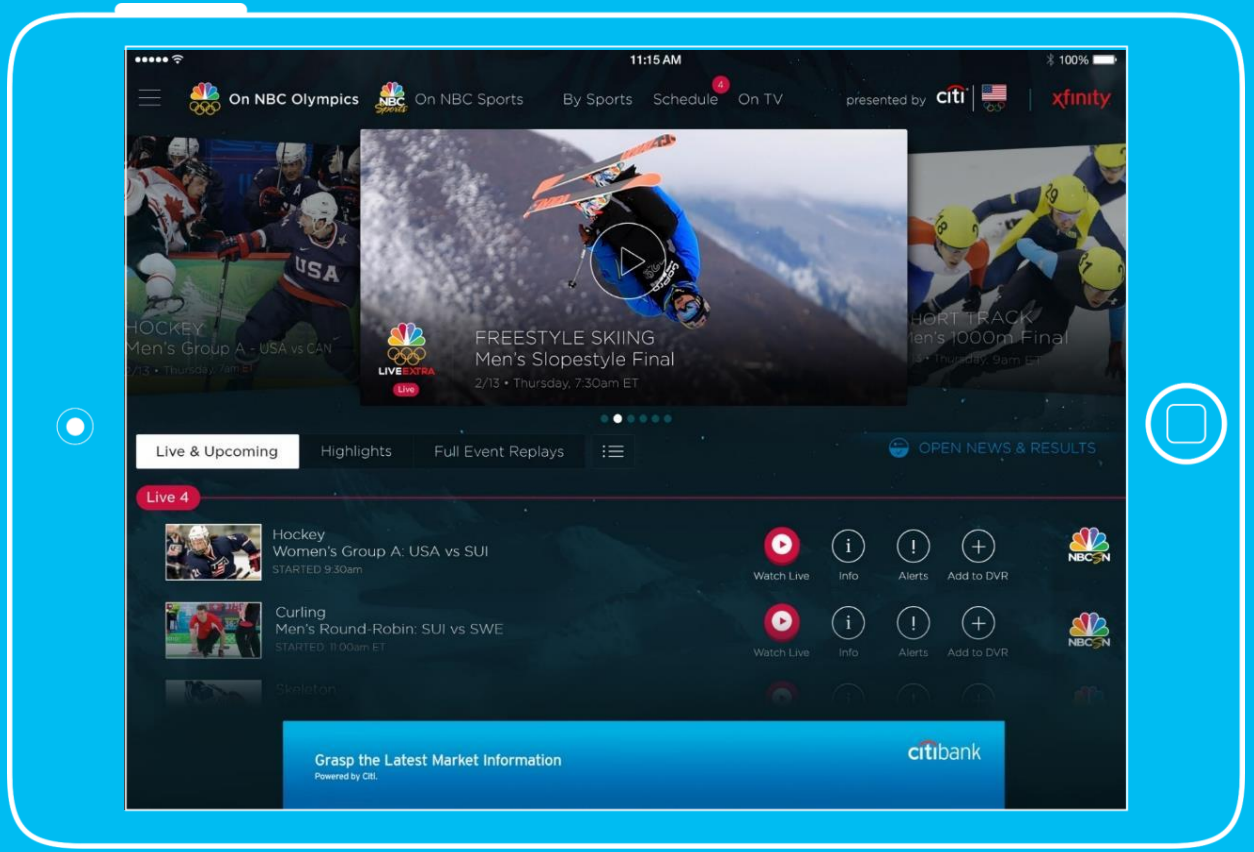
Percent of digital universe tagged:

3% (today)

33% (2020)

Total digital content will grow

50% From 2012 = 4 zettabytes in 2013



Olympics NBC Sports

Live video encoding and streaming

Web + Mobile

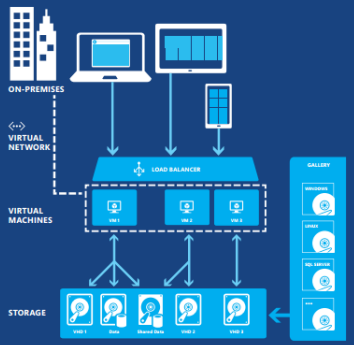
100 million viewers

2.1 million concurrent HD viewers during the USA vs. Canada hockey match

What is Microsoft Azure?

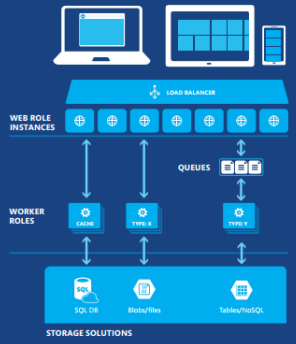
Virtual Machines

VMs are basic cloud building blocks. Get full control over a virtual machine with virtual hard disks. Install and run software yourself. Configure multiple machines with different roles to create complex solutions. VMs are nearly identical to conventional (real) servers, and are the easiest way to move existing workloads to the cloud.



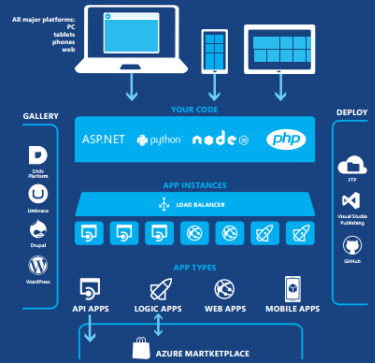
Cloud Services

Easily access and manage these general-purpose VMs. We maintain and update each VM as needed with system updates. You configure the VM size as needed, and scale out as many copies as needed. Two types of VMs: worker roles and web roles—worker roles are made for computing and running services. The web role is simply a worker role with IIS already installed and configured.



App Service

Azure App Service is a high productivity solution for developers who need to create enterprise-grade web and mobile app experiences. App Service provides a complete platform as a service solution that enables you to deploy and elastically scale applications in the cloud, and seamlessly integrate them with on-premises resources and SaaS based applications.



Microsoft Azure

Microsoft Azure is a flexible, open, and secure public cloud built for business. Access a broad collection of integrated services that accommodate many languages and operating systems. Use world-class tools to accelerate a wide variety of app development and delivery capabilities.

Free trial!

Use $200 credit to try any combination of Azure resources:

aka.ms/TryAzure

Search **azure.microsoft.com, MSDN, or TechNet** for keywords found in this poster

Catalog of Services

COMPUTE

- **Virtual Machines** — Get full control over a server in the cloud and maintain it as your business requires
- **Cloud Services** — Managed virtual machines with stateless web and worker roles
- **Service Fabric** — Build highly scalable, reliable stateless and stateful applications composed of microservices
- **Batch** — For running large scale parallel and high performance computing (HPC) applications
- **Scheduler** — Create jobs that run reliably on simple or complex schedules to invoke any type of service
- **Remote App** — Access Windows apps from any device and any location that run within Remote App VMs

NETWORKING

- **Virtual Network** — Provision and manage VPNs in Azure and securely link to your on-premises IT infrastructure
- **Express Route** — Connect on-premises and cloud datacenters directly through dedicated, non-internet lines
- **Traffic Manager** — Load-balance incoming global traffic across multiple services running in multiple datacenters

IDENTITY & ACCESS

- **Active Directory** — Identity and access management for cloud applications and ability to link to on-premises Server AD
- **Multi-Factor Authentication** — Safeguard access to data and apps with additional physical layer of security control

MEDIA & CDN

- **Media Services** — Range of services that support video on-demand and live streaming workflows
- **CDN** — Cache content for your apps in Content Delivery Network (CDN) at 100's of edge locations to improve user experiences

WEB & MOBILE

- **Web Apps** — Managed web platform, get started for free and scale as you go using many tools/ languages
- **Mobile Apps** — Add backend capabilities to mobile apps, with native client support on most device platforms
- **API Apps** — Create and surface your app logic as APIs for other services and apps to consume
- **Logic Apps** — Build/execute business processes by linking your own custom APIs with an API Gallery/Marketplace
- **API Management** — Publish and manage APIs to developers, partners and employees securely and at scale
- **Notification Hubs** — Deliver millions of cross platform push notifications from any application backend, anywhere

ANALYTICS

- **HDInsight** — Big Data (based on Apache Hadoop) analytics that integrate easily with Microsoft Office
- **Machine Learning** — Mine historical data with compute power to predict future trends or behavior
- **Stream Analytics** — Process data streams in real-time to discover and react to trends
- **Data Factory** — Ingest data from multiple sources to combine into a cloud based data warehouse
- **Event Hubs** — Ingest, persist, process millions of events per second from millions of devices
- **Mobile Engagement** — Real-time actionable analytics on user behavior to increase app usage

STORAGE & BACKUP

- **Storage Blobs & Files** — Store binary application data and web content – store for dedicated and shared virtual disks for VM's
- **Backup** — Managed service that handles backup/restore of Windows Server machines/backup agent
- **Import / Export** — For massive data transfer – ship encrypted disks to move data in/out of blob storage
- **Site Recovery** — Coordinate replication and recovery of System Center private clouds

DATA

- **StorSimple** — Automated, policy driven solution to extend on-premises primary storage for backup and disaster recovery
- **SQL Database** — Managed relational database service with high availability and selectable performance levels
- **DocumentDB** — Store/retrieve millions of JSON objects from a highly scalable NoSQL document database
- **Redis Cache** — Make applications scale and be more responsive under load by keeping data closer to app logic
- **Search** — Managed, scalable search service for your apps. Create tunable search results and ranking models
- **Tables** — Massive scale for semi-structured key/value type data in this schema-less NoSQL store

DEVELOPER SERVICES

- **Visual Studio Online** — Store code, plan and track projects, build, deploy and test apps in the cloud collaboratively
- **Application Insights** — Analyze app usage, availability and performance to detect issues and solve problems proactively

HYBRID INTEGRATION

- **Storage Queues** — Simple message queue for application de-coupling architecture for scale out
- **BizTalk Services** — Build EDI and Enterprise App Integration (EAI) solutions in the cloud
- **Hybrid Connections** — Connect apps in Azure with on-premises resources without a VPN or dedicated line
- **Service Bus** — Messaging capabilities (pub/sub, queues) and on-premises to cloud connectivity solution

MANAGEMENT

- **Automation** — Run durable PowerShell scripts to automate frequent, long running, complex Azure tasks
- **Portal** — Web based experience to provision, control and monitor all Azure services
- **Key Vault** — Safeguard and control keys and secrets in cloud scale hardware security modules
- **Operational Insights** — Analyze and troubleshoot on-premises IT infrastructure without using instrumented code

COMMERCE

- **Store / Marketplace** — Find and manage other services provided by third parties
- **VMDepot** — Find free open source VM images that you can download and run in Azure Virtual Machines

Like it? Get it.

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Version 2.5 Created by the Azure poster team Email: AzurePoster@microsoft.com

Microsoft

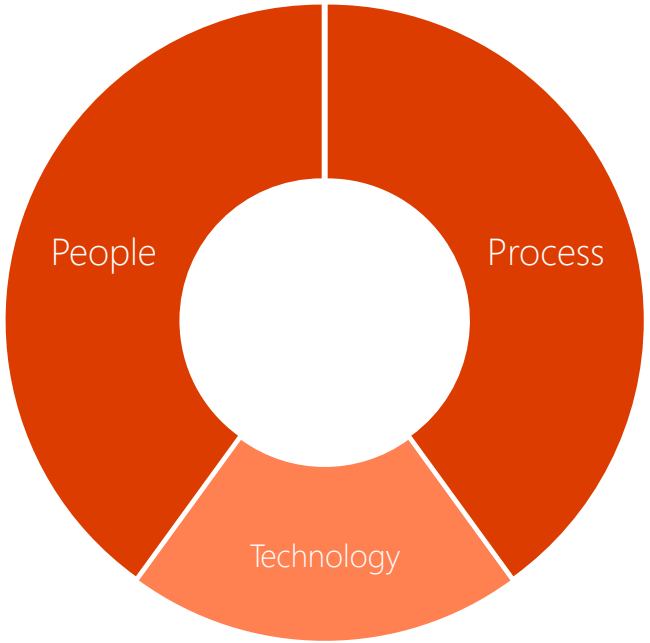
Az IT Szolgáltatás Menedzsment fontossága

Hagyományos környezetek esetén → Mi okozza a kieséseket?

„40% of IT failures are related to processes within an organisation's IT department.

40% of IT failures are attributed to people within an organisation's IT department and their understanding of the technology.

20% of IT failures are linked to failures with the technology itself."



SOURCE: Four steps to optimize configuration management process and tools Ronni J. Colville October 2013

A Technológia önmagában nem elegendő…

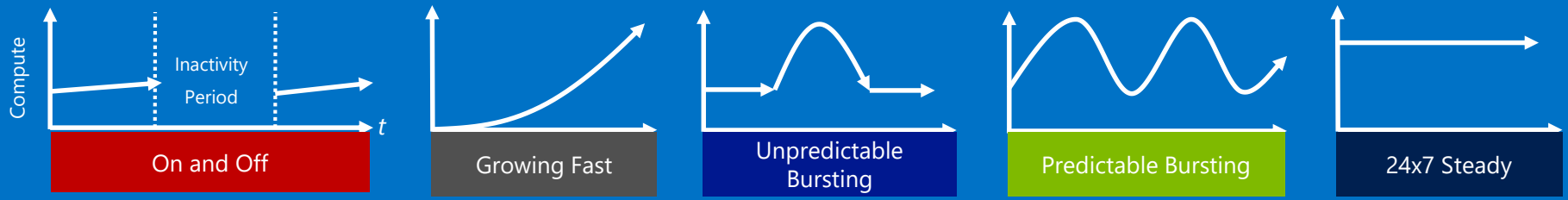
Új tervezési, fejlesztési, üzemeltetési munkafeladatok jelennek meg

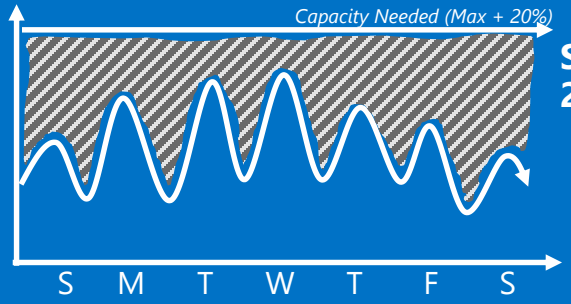
A „hagyományos” folyamatok, eljárások átalakítása szükséges

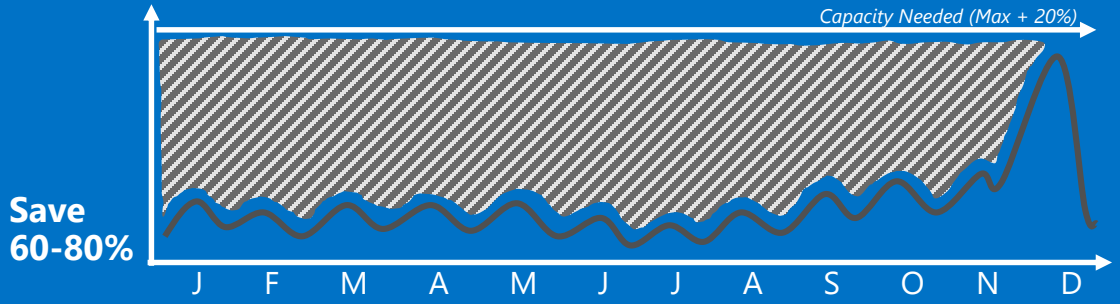
Új szerepkörök, „readiness” kondíciók

Szorosabb együttműködésre van szükség a szolgáltatóval(egy/több)

Computing Patterns - példa



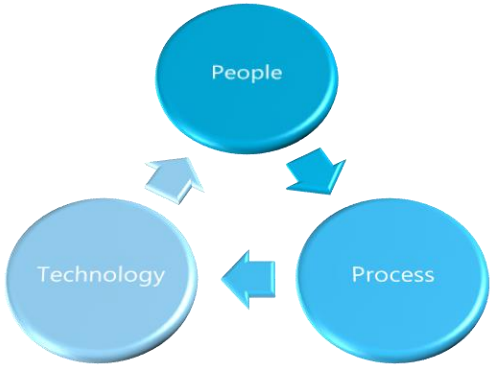




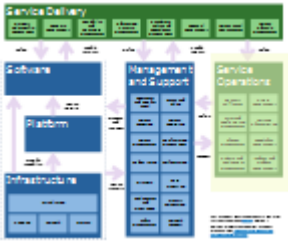
On and Off (30%)	Growing Fast (15%)	Unpredictable Bursting (25%)	Predictable Bursting (20%)	24x7 Steady (10%)

Your Application Portfolio – What Does it Look Like..?

Az optimális felhő működtetés változtatást igényel a Folyamat (Process) és az Ember/személyzet (People) szintjén is.

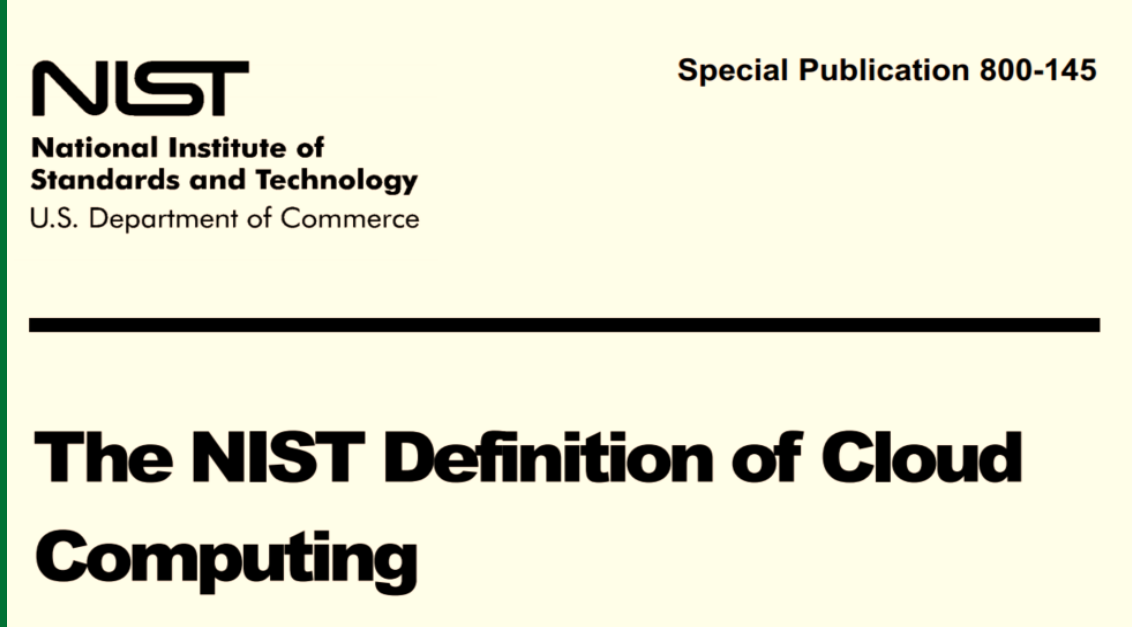


Cloud Services Foundation Reference Model



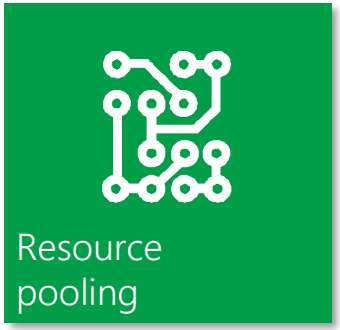
*„**Heroes** can barely run a ship (like many IT departments) and definitely **can't run a navy**."*

Definíciók

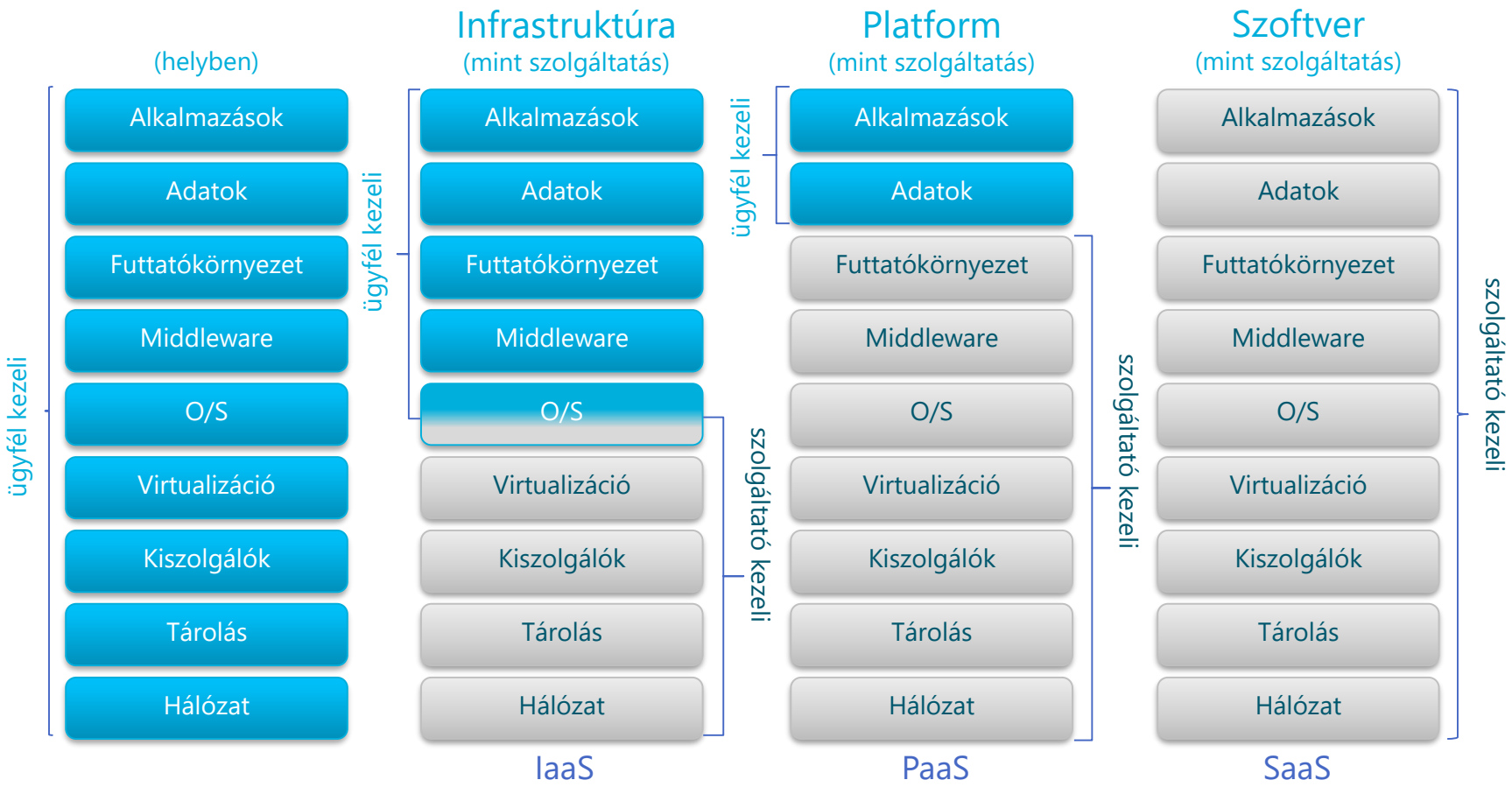


Cloud computing is a model for enabling **ubiquitous**, convenient, **on-demand** network access to a **shared pool** of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be **rapidly provisioned and released with minimal management effort** or service provider **interaction**.

Definíciók – alapvető jellemzők



Definíciók – Szolgáltatási modellek



Definíciók – Szolgáltatási modellek

Private cloud

Hybrid cloud

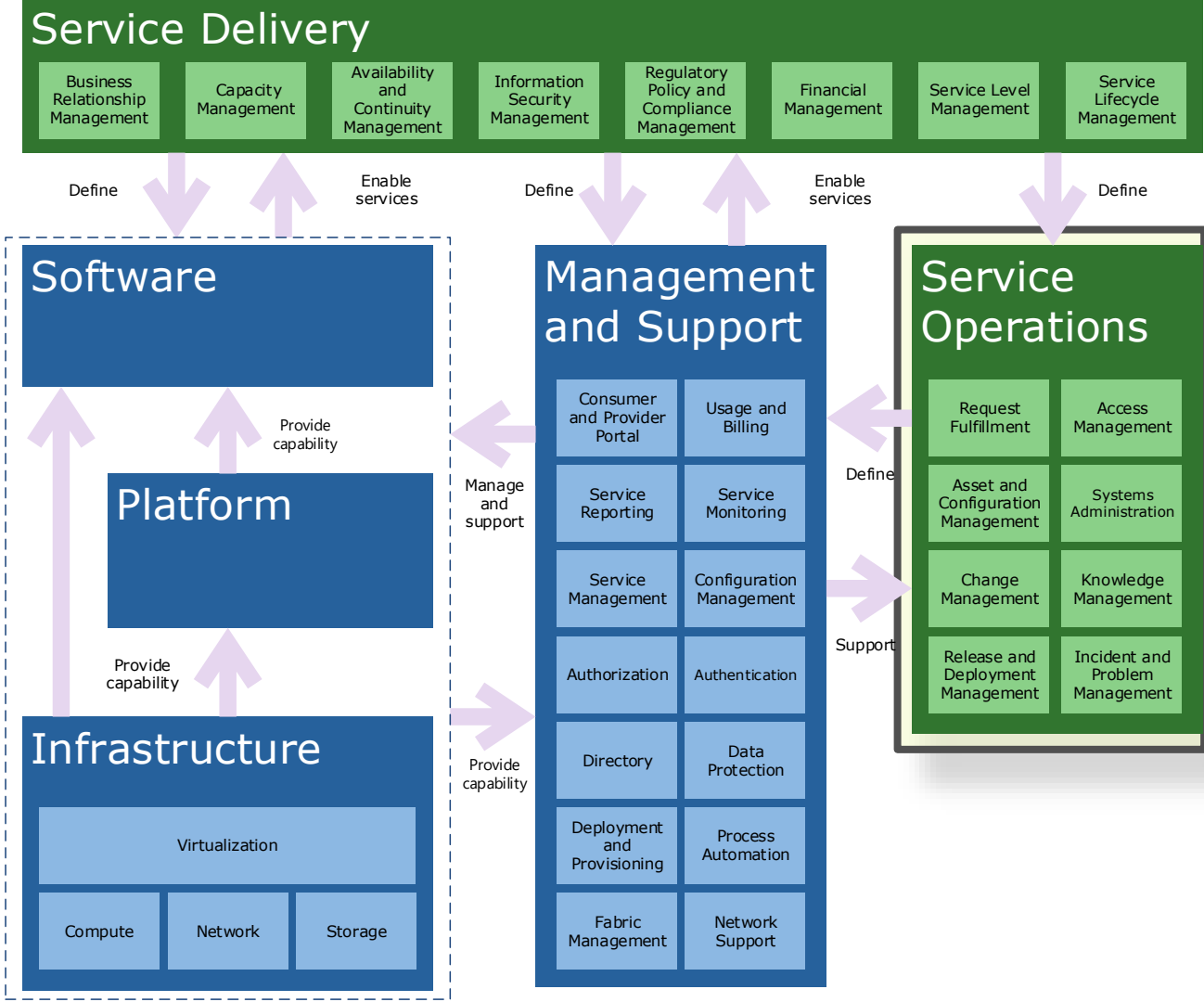
Public cloud

Community cloud

Cloud Services Foundation Reference Model

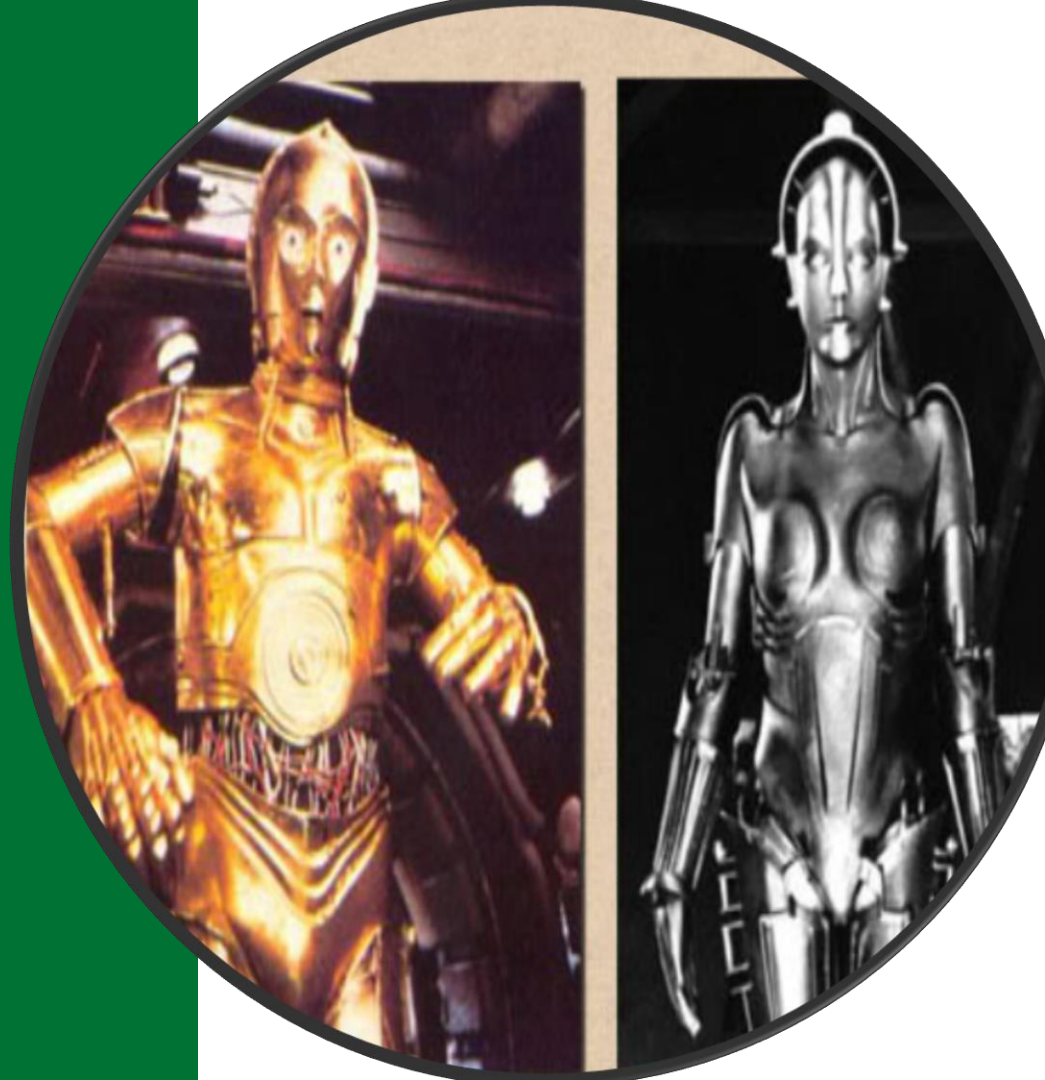
Cloud Services Foundation Reference Model

Minimum operational **processes**, and **technical capabilities** that are necessary to provide *any* services…



http://blogs.technet.com/b/cloudsolutions/archive/2013/08/15/cloud-services-foundation-reference-architecture-reference-model.aspx

Felhő alapelvek, alapvető koncepcionális elemek



Principles

(general rules, guidelines to support cloud services foundation)

Take a Service Provider's Approach

Minimize Human Involvement

Drive Predictability

Optimization of Resource Usage

Take a Holistic Approach to Availability Design

Achieve Business Value through Measured Continual Improvement

Incentivize Desired Behavior

Create a Seamless User Experience

Perception of Infinite Capacity

Perception of Continuous Service Availability

http://blogs.technet.com/b/cloudsolutions/archive/2013/08/15/cloud-services-foundation-reference-architecture-principles-concepts-and-patterns.aspx

Concepts

Favor Resiliency Over Redundancy

Pool Compute Resources

Service Classification

Fabric Management

Consumption Based Pricing

Resource Decay

Virtualized Infrastructure

Elastic Infrastructure

Partitioning of Shared Resources

Security and Identity

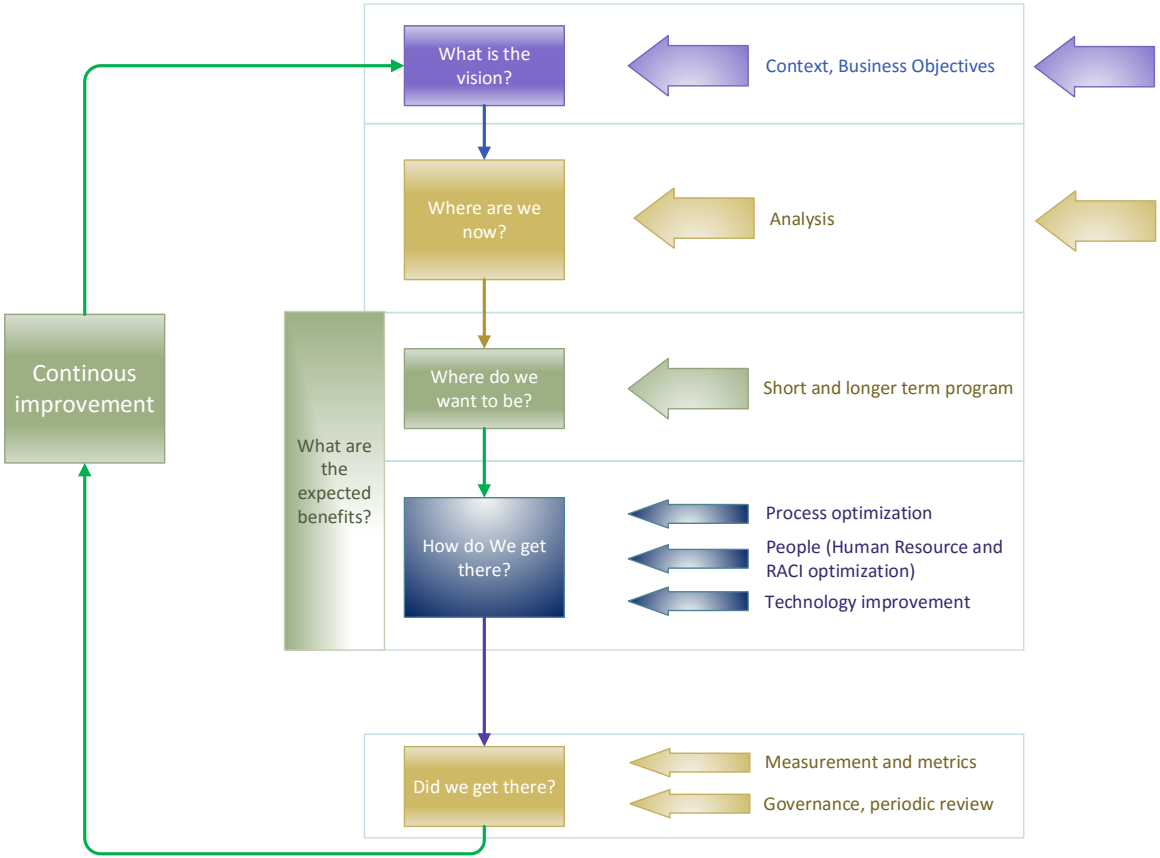
Multi tenancy

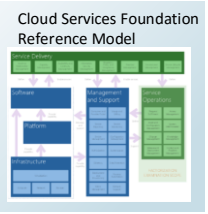
Cost Transparency

Homogenization of Physical Hardware

http://blogs.technet.com/b/cloudsolutions/archive/2013/08/15/cloud-services-foundation-reference-architecture-principles-concepts-and-patterns.aspx

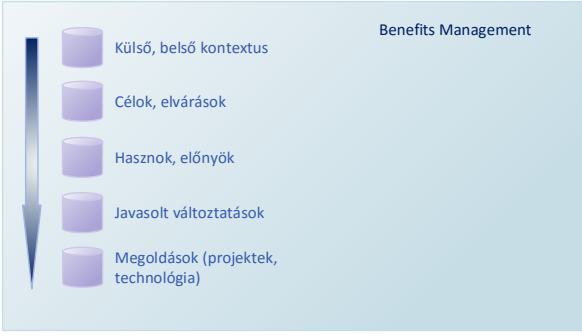
„Klasszikus” megközelítés



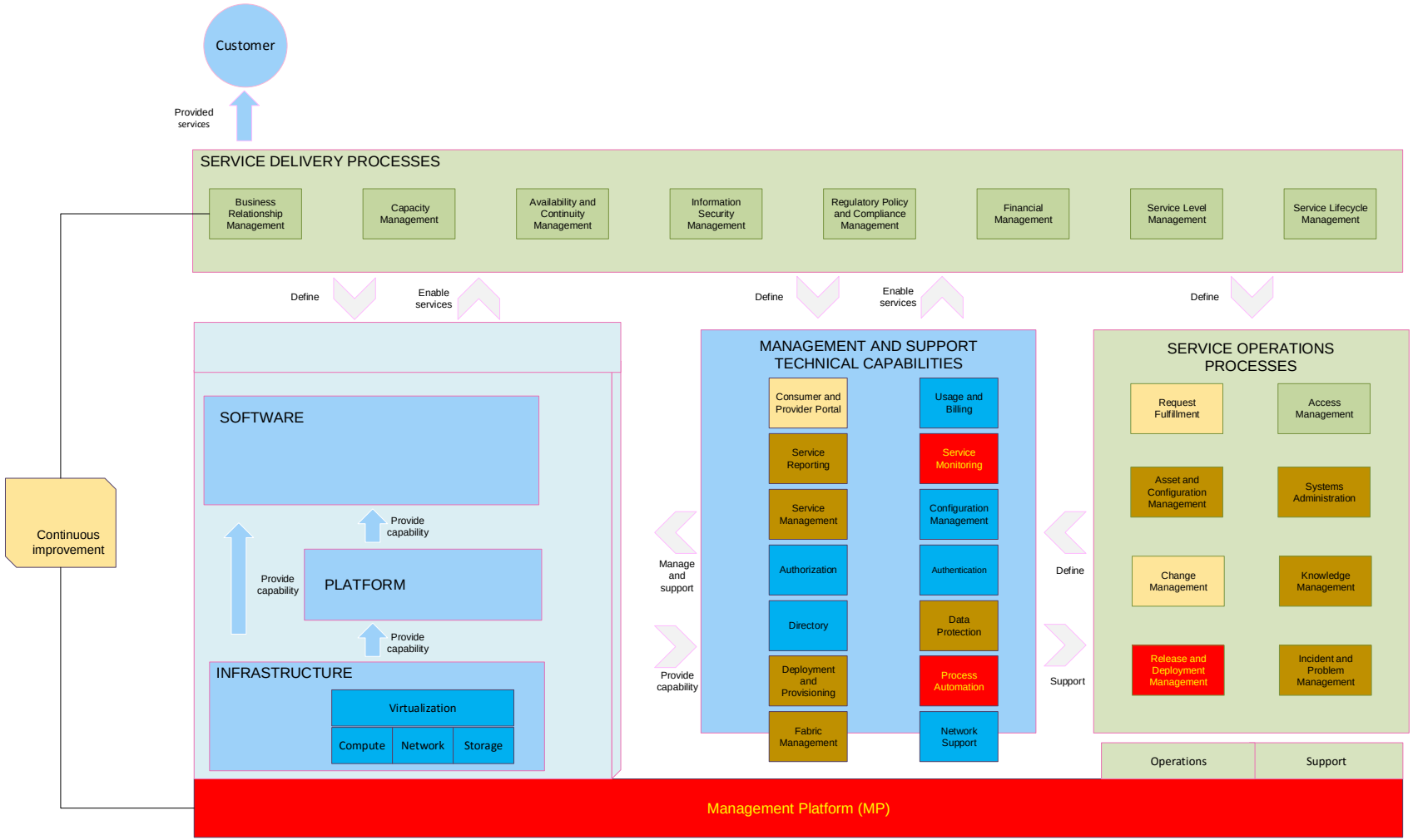


PROCESSES:

- Incident Management
- Problem Management
- Request Fulfilment
- Event Management
- Service Asset & Configuration Management
- Change Management
- Release & Deployment Management
- Knowledge Management
- Access Management

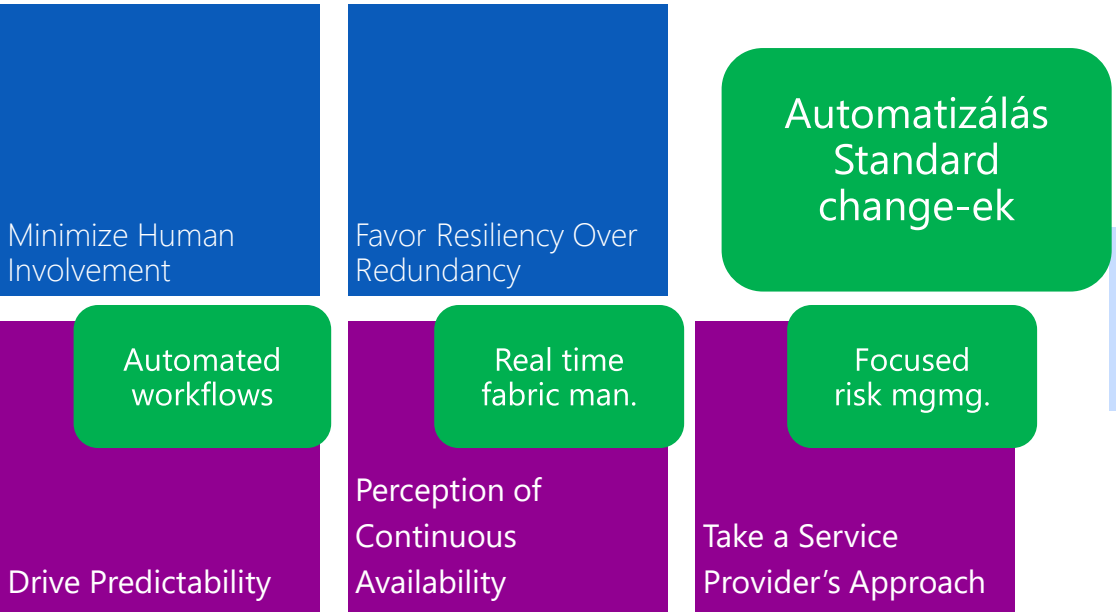


Példa...


Customer
Provided services
SERVICE DELIVERY PROCESSES
Business Relationship Management
Capacity Management
Availability and Continuity Management
Information Security Management
Regulatory Policy and Compliance Management
Financial Management
Service Level Management
Service Lifecycle Management
Define
Enable services
Define
Enable services
Define
Continuous improvement
SOFTWARE
Provide capability
Provide capability
PLATFORM
Provide capability
INFRASTRUCTURE
Virtualization
Compute
Network
Storage
MANAGEMENT AND SUPPORT TECHNICAL CAPABILITIES
Consumer and Provider Portal
Service Reporting
Service Management
Authorization
Directory
Deployment and Provisioning
Fabric Management
Usage and Billing
Service Monitoring
Configuration Management
Authentication
Data Protection
Process Automation
Network Support
Manage and support
Provide capability
Define
Support
SERVICE OPERATIONS PROCESSES
Request Fulfillment
Access Management
Asset and Configuration Management
Systems Administration
Change Management
Knowledge Management
Release and Deployment Management
Incident and Problem Management
Operations
Support
Management Platform (MP)

Folyamatok

Responsible for **controlling the life cycle of all changes**.



Service Operations

Request Fulfillment	Access Management
Asset and Configuration Management	Systems Admnistration
Change Management	Knowledge Management
Release and Deployment Management	Incident and Problem Management

Responsible for **maintaining information** on the assets, components, and infrastructure needed to provide a service. **Critical configuration data** for each component, and **its relationship** to other components. Mature Service Asset and Configuration Management processes are **necessary for achieving predictability**.

Nagyobb dinamika
Fizikai-logikai elválasztás
Ismert állapot (pl. fault dom.)

Virtualized Infrastructure

Fabric Management

Service Operations

- Request Fulfillment
- Access Management
- Asset and Configuration Management
- Systems Admnistration
- Change Management
- Knowledge Management
- Release and Deployment Management
- Incident and Problem Management

InM: **resolve events** that are impacting, or threaten to impact, services as **quickly as possible with minimal disruption**.

PrM: **identify and resolve root causes of incidents** that have occurred as well as identify and prevent or minimize the impact of incidents that may occur.

Automatizálás

Azonosítás
Elhárítás

Incidens vs
failure
fixining

Virtualized
Infrastructure

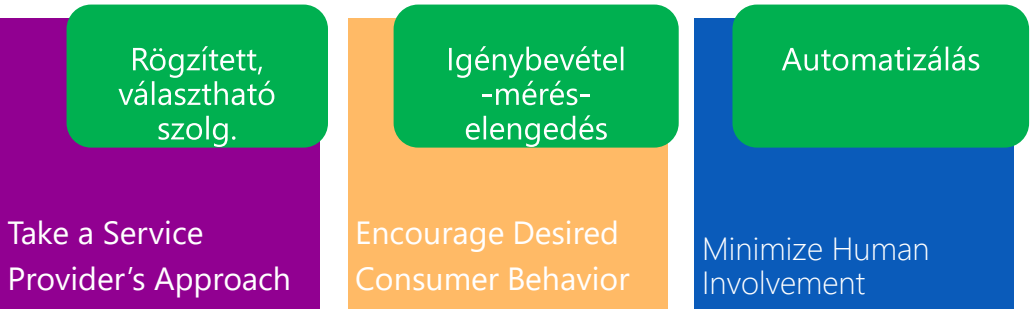
Minimize Human
Involvement

Resource Decay

Service Operations

- Request Fulfillment
- Access Management
- Asset and Configuration Management
- Systems Admnistration
- Change Management
- Knowledge Management
- Release and Deployment Management
- Incident and Problem Management

Responsible for manage requests for service from users.



Service Operations

- Request Fulfillment
- Access Management
- Asset and Configuration Management
- Systems Admnistration
- Change Management
- Knowledge Management
- Release and Deployment Management
- Incident and Problem Management

Szervezet

Az IT szervezetre vonatkozó főbb kihatások

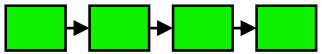
Kihatás az ITSM folyamatokra

Új szerepkörök, ismeretek

Változás a felelőségi körökben

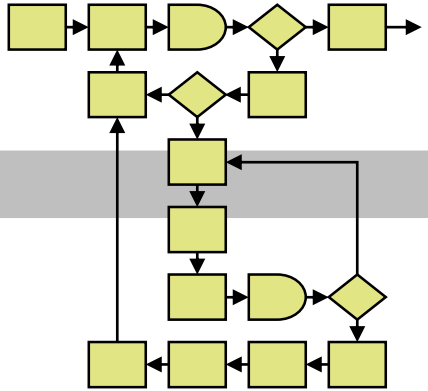
Javasolt kiinduló megközelítés (kiemelés)

Javasolt gyakorlat



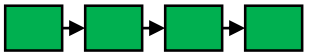
- Üzleti modell
- Előre definiált szerepkörök és felelősségek
- Támogatni kívánt folyamatok
- Operatív tevékenységek
- Governance tevékenységek

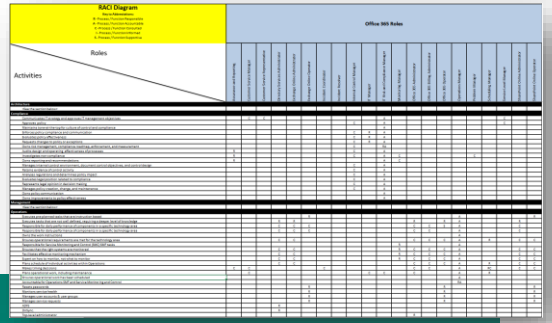
Jelenleg működtetett folyamatok/szervezet



- Jelenlegi szerepkörök, munkatársak új szerepkörökbe helyezése szükség szerint
  - Ütköző accountability-k
  - Megosztott felelősségek
  - Hiányzó accountability-k
  - Hiányzó felelősségek
- Munkatársak képzése
- Governance

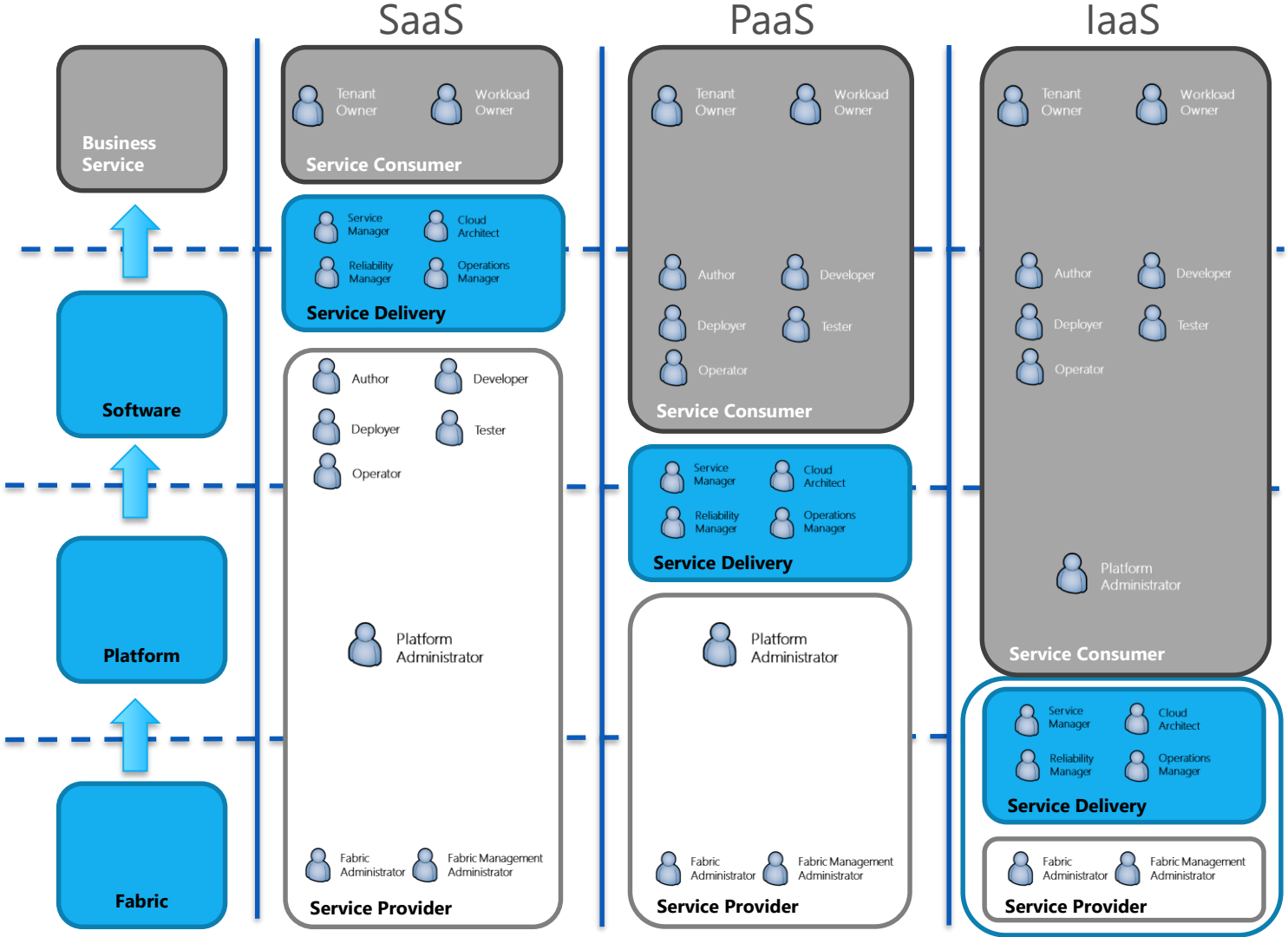
Új, Felhő szolgáltatásokat működtető szervezet



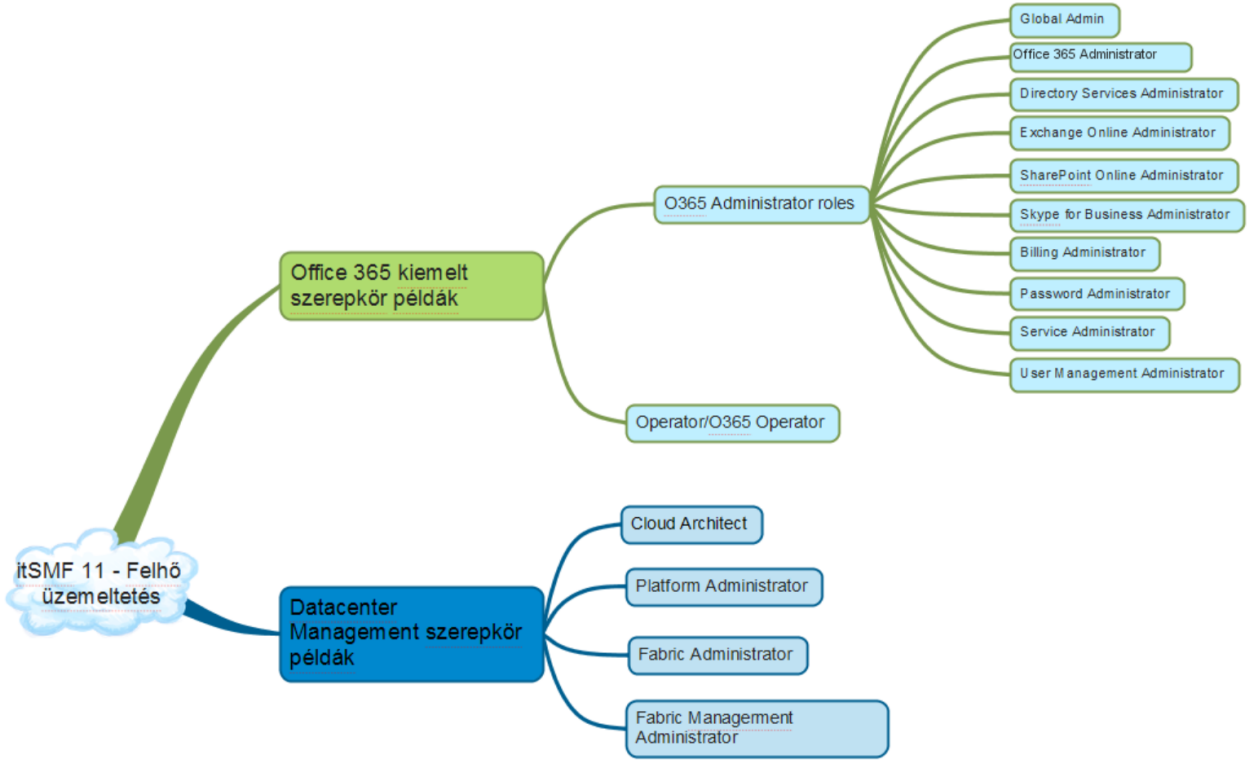


Új szervezeti struktúra
Új szerepkörök, felelősségi körök

Cloud Service Models will impact the role model

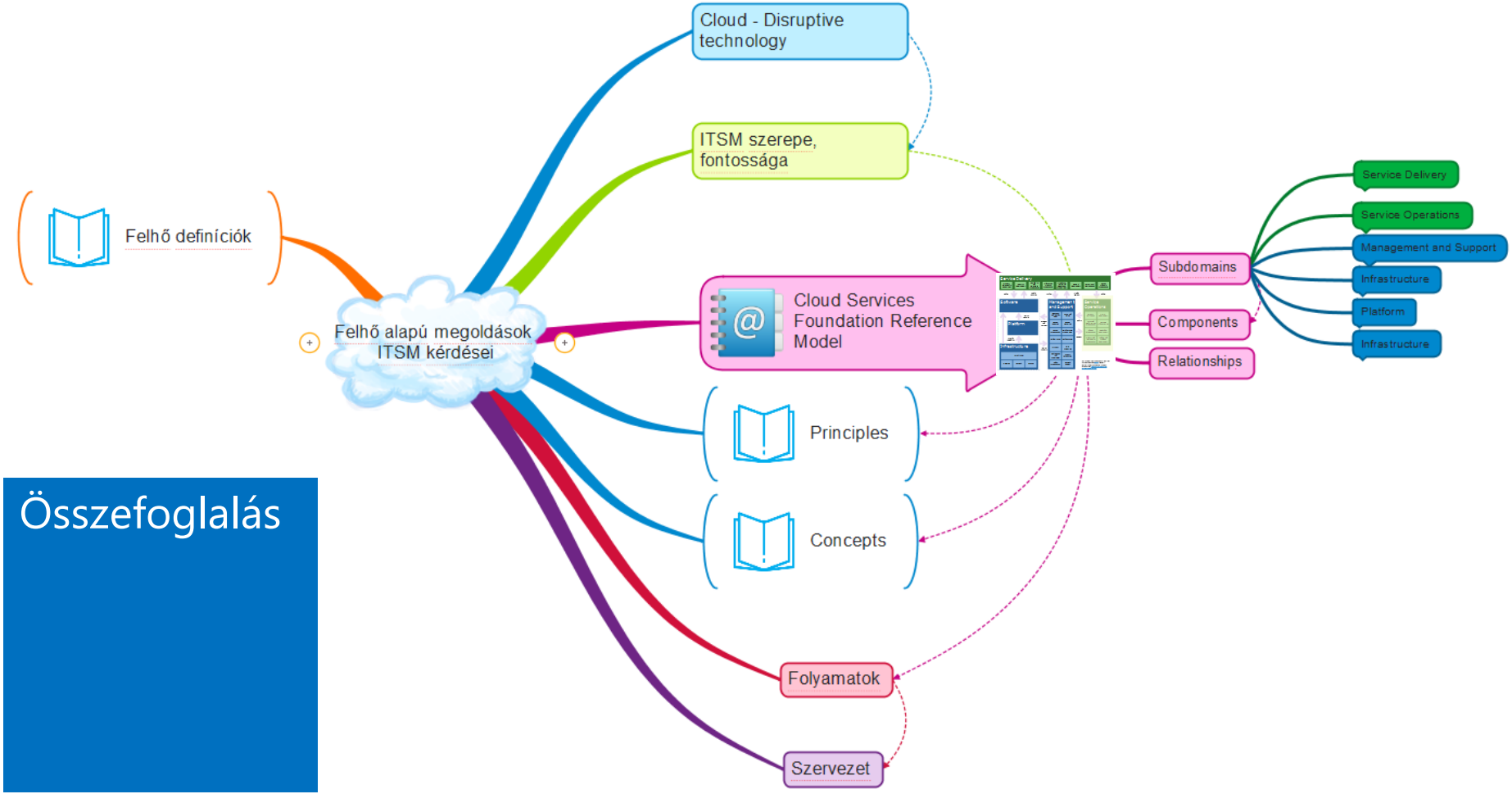


Felhő környezethez kapcsolódó szerepkörök (példák)



https://support.office.com/en-us/article/Assigning-admin-roles-in-Office-365-eac4d046-1afd-4f1a-85fc-8219c79e1504?ui=en-US&rs=en-US&ad=US

Összefoglalás



Kérdések?

Köszönöm szépen

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