CLOUD SERVICES FOR EMS

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September 12-14, 2016

#EMSLive16
Agenda

• EMS Cloud Services
• Definitions
• Hosted Service
  • Managed Services
  • Governance
• Service Delivery
• Architecture
• Discovery
• Next steps if you are interested
• Review
Cloud Services for EMS
Cloud Service for EMS

- Hosting
  - We are taking your on-premise application and hosting it our EMS Cloud
  - Maintained EMS Application with Test and Production databases
- Services around hosting
  - Governance (Change Management, Release Management)
  - Security (ISO27002 standards)
  - EMS Cloud Services Manual
EMS Cloud Services

Microsoft Azure

Architecture

Delivery

Hosted
Managed Services
Professional Services
Support

Governance

Authentication
API
Exchange
Conferencing
HR Toolkit
FM Toolkit

Users
Expert
Everyday
Scheduling
Events
Kiosk
Mobile
Hoteling

Integrations
Hosted in Microsoft Azure

- Microsoft runs its own data centers & is responsible for physical security
- Exact locations not available for security reasons
- Microsoft facilities hold an ISO27001 certification & audited to SSAE 16 Type II, SOC 1, SOC 2
- Standard secure operations protocols are in place, including least-privilege access
EMS Security

EMS Policies

- ISP – Information Security Policy - EMS employees trained annually
- Acceptable Use - How we handle technology
- Data Classification - How we classify data and assign owners
- Incident Management - Handling of incidents

Disaster Recovery (DR) & Business Continuity Plan (BCP)

- Specific to each department
- Tested annually
Data Security

- **Data-in-Transit** always encrypted
  - End user applications to Azure – SSL / TLS
  - Full encryption between customer & EMS
- **Least Privilege Access** granted with principle of least privilege
  - Only EMS Cloud Operations can access your environment
- **Hardening** of both server & SQL
- **Monitoring** of Log files, audit logs, temp files, caches, etc.
SQL Cluster Geographic Redundancy

- SQL cluster replicated to other geographic regions within Azure
- Database redundancy within same Microsoft Azure datacenter or in different regions (geographic redundancy)
- Active SQL Cluster helps ensure high uptime
- Database disaster recovery with low recovery time
EMS Servers

- Utilize Microsoft Azure PaaS infrastructure
  - Web: hosts SSL-based web services
  - SQL: storage of data in SQL Server
  - Isolation (machine, fabric, VLAN) protects operating environment
  - Audit Logs: all actions by system logged & available
Services
Definitions

**Managed Services** = outsourcing of recurring business & IT functions to improve operations and reduce costs

**Professional Services** = on-demand services, i.e., a “project”
EMS Cloud Services

Hosting Services
- Environment Provision
- Hardware Provision
- Infrastructure Software
- Network Connectivity
- Backups
- Environment Upgrades
- Security: Physical
- Security: Network
- Security: Anti-Virus
- Security: Windows Updates
- Platform Monitoring
- System Administration

Managed Services
- DR/BCP
- Capacity Delivery
- Capacity Planning
- Capacity Upgrade
- Security Reviews
- Application Monitoring
- Incident Management
- Problem Management
- Change Management
- Release Management
- Service Reporting

Application Support Services
- Application Software Provision
- Application Support
- Technical Consultancy
- Implementation Services

Customer
Hosted Services

These services create a *safe and secure* environment for delivering EMS.

- We cover provisioning of hardware, OS, database, licensing, upgrades, server maintenance, internet connectivity, data backups
- We also handle security of physical space and network access as well as antivirus & security patches
- We monitor for, detect & alleviate potential problems
- We perform all basic operational tasks (system administration)
Managed Services actively manage and deliver the application.

- Planning for & managing system loss, service quality, & capacity problems
- Reporting & proactive reviews of security and capacity delivery
- Everything to do with EMS software: releases, upgrades, performance tuning
- Governance: incident & problem management, change control, release management
Application Support Services

EMS provides Application Support Services which are services around the application.

- We work with you to install & configure EMS to meet your specific needs
- We provide support
- We work with our Professional Services team to help you get full value from EMS
- We provide training materials

Application Support Services

- Application Software Provisioning
- Application Support
- Technical Consultancy
- Implementation Services
Governance
Governance

- Change Management
- Release Management
- Incident and Problem Management
Change Management

- We manage changes to any aspect of EMS Cloud Services
  - In a controlled manner: we log, review, approve, & test all changes
  - With minimal disruption
  - And with change requests logged, reviewed & approved
- We test change in separate test environment – you validate
- We notify you of changes that will affect your service
- Same process for “business as usual” and emergency changes
EMS Change Management

Changes need to be well-planned and require customer users to conduct thorough analyses that should comprise:

- **Feasibility:** Is the change necessary?
- **Prioritization:** Define an internal priority for the request
- **Impact Analysis:** Review everything that might be affected by the change
- **Consultation:** Liaise internally with colleagues/stakeholders about the change
- **Notification:** List everyone who needs to be notified about the change request
- **Roll-Back:** Make plans to revert change if things go wrong
- **Documentation:** Complete a change request document and update all other relevant documentation
- **Submission:** Submit change request via relevant logging tool
Release Management

• EMS Cloud Operations installs new releases…
  • In test environment first
  • In production on our schedule
• We apply maintenance releases to production within 2 weeks
• Testing = client responsibility
Incident and Problem Management

**Incident Management**
- Creating tickets about incidents
- Logging incidents
- Prioritizing incidents
- Assigning incidents
- Tracking incidents
- Analyzing incidents
- Solving incidents

**Problem Management**
- Proactively prevent occurrence of incidents, and address causes of incidents that pose greatest risk
- RCOA (Root Cause Outage Analysis)
Service Delivery: Support

1. Your Help Desk contacts EMS Support
2. EMS Support creates ticket
3. If issue relates to hosting, it’s escalated to Cloud Operations
4. Cloud Operations may contact client directly; we will address issue and inform both EMS Support and client
EMS Hosted Architecture

Cloud

Hosted Solution Overview

End Users
Web Browser

Locally Installed Desktop Client
System Requirements

- OS: Windows 7, 8, 8.1, 10 (32 or 64bit)
- Memory: 2GB or More
- Hard-Disk Space: 100 MB
- Software: .NET Framework 4.5.2
- Video: SVGA 1024X768 or higher resolution
- Network: Connection to EMS Cloud Systems.

Integrated Authentication
(Optional)
LDAP
Portal
SAML

HTTP 443

HTTPS Port 443
Or custom port

Exchange Server
(Optional)
(Exchange Web Services)

HTTP 443

SMTP 100
Or custom port

Mail Server Customer
(Optional)
or Outside (365, gmail etc.)

HTTPS Port 25
Up to OA-Servers
For account updates and provisioning

Customer HR System
(Optional)
File Export for Account Provisioning
What We Need from You
Discovery Information

- Are you an existing client who wants to move to the EMS Cloud Service?
- If so, we need to know about your current EMS implementation

What is the current size of your EMS database DB?
What type server machine hardware is this running on (CPU, RAM...etc)?
Have you ever purged history?
How many total users and expert users access the EMS system?

Hosting Considerations
All of your admin user's workstations, will need to meet our minimum system requirements. If your admin users are running on Macs A solution will need to be identified to meet those minimum requirements. Such as running Windows on the Mac with an application like Boot Camp, Parallels or Virtual Box. A virtualization alternative, such as Citrix or Terminal Services, could also be leveraged. If you need assistance with alternatives, contact your account representative.

Integrated Authentication
Will any changes need to be made to integrated authentication when the application is hosted?

Exchange Integration
In your exchange web service accessible from the outside the organization?
Are you running multiple exchange environments? If so are all exchange environments accessible from outside the organization? Does auto discover work from the outside?

EMS for Outlook
If this is an existing client, can you change the URL for your end users? If this is a new installation can you push the Outlook add-in to your users?

EMS API
Will the applications that are making calls to the API support HTTPS connections outside the organization?

Email Notifications
If your SMTP server is not accessible from the outside, your email notifications "from" address will need to change.

Glance, Kiosk and Room Wizard
Will your devices be able to access the Glance application once it is moved outside the organization? Firewall rules will need to be addressed.

CISCO and Polycomm Integrations
Will your CISCO and Polycomm API's have access from outside the organization?

HR Tool Kit
Will you be able to upload a flat file to our secure FTP server (SFTP or FTPS)?

Other Integrations
Do you have any other custom integrations or reporting packages that rely on direct access to the database? If so, we would need to have further discussions on the requirements around these integrations to identify if we can support them in the hosted solution.
Hosting Requirements

• You must make sure your network can get to our cloud service URL
• If you want to run EMS Desktop Client on Macs:
  • We can set up access via RDP (Microsoft Remote Desktop); or:
  • You can create Windows VM on Mac
• For third-party integrations, we’ll work with your IT team
• You must contract with our Professional Services team for migration of your application and data
Review
Review

- We have primary & secondary data centers for all functions
  - Each server in each datacenter runs with redundancy
  - Microsoft provides infrastructure with redundant power, internet connections & HVAC
- We segment your data away from other customers
  - We back up your data & replicate it to another datacenter
- We monitor both hardware & software

- Governance
  - Change Management process track all changes
  - Release Management process; Cloud Operations performs all upgrades
  - Incident and Problem Management

- Security
  - Intelligent adaptive firewalls monitor traffic for threats
  - Access limited to EMS Cloud Operations team; only least level of access assigned
  - Communications & data all encrypted
Next Steps

If Cloud Services interest you:
• Talk to your Account Executive
• Fill out the “discovery” document
• Let us know of any specific hosting requirements
Questions?
CLOUD SERVICES FOR EMS

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You may also be interested in attending…
• Setting the Course for EMS Software

#EMSLive16
## Hosting Services

- Environment Provisioning
- Hardware Provisioning
- Infrastructure Software Provisioning
- Network Connectivity Provisioning
- Backups
- Environment Upgrades
- Security: Physical
- Security: Network
- Security: Anti-Virus
- Security: Windows Updates
- Platform Monitoring
- System Administration

<table>
<thead>
<tr>
<th>Hosting Services</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Provisioning</td>
<td>Provision of data center environment (power, AC, etc.)</td>
</tr>
<tr>
<td>Hardware Provisioning</td>
<td>Provision and maintenance of servers and other hardware to run the application for the environment</td>
</tr>
<tr>
<td>Infrastructure Software Provisioning</td>
<td>Provision (including license fees) and maintenance of OS software, DB software, etc. for use by designated numbers of users in the environment</td>
</tr>
<tr>
<td>Network connectivity Provisioning</td>
<td>Provision of internet connectivity into the environment</td>
</tr>
<tr>
<td>Backups</td>
<td>Archive &amp; retention of all data (and restores as required)</td>
</tr>
<tr>
<td>Environment Upgrades</td>
<td>Upgrades to Operating Systems, DB software etc.</td>
</tr>
<tr>
<td>Security: Physical</td>
<td>Control of physical access to premises and equipment</td>
</tr>
<tr>
<td>Security: Network</td>
<td>Control of access into environment from remote locations</td>
</tr>
<tr>
<td>Security: Anti-virus</td>
<td>Regular updating of standard antivirus data files and software</td>
</tr>
<tr>
<td>Security: OS and server software updates</td>
<td>Application of regular Windows patches, SQL Server patches, and other security patches</td>
</tr>
<tr>
<td>Platform Monitoring</td>
<td>Monitoring of networks, hardware and infrastructure to detect and correct problems, and to prevent potential problems</td>
</tr>
<tr>
<td>System Administration</td>
<td>Basic operational tasks relating to hardware, OS and networks</td>
</tr>
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</table>
### Managed Services

- DR/BCP
- Capacity Delivery
- Capacity Planning
- Capacity Upgrade
- Security Reviews
- Application Monitoring
- Incident Management
- Problem Management
- Change Management
- Release Management
- Service Reporting

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<td>Disaster Recovery / Business Continuity</td>
<td>Provision of DR/BCP environment for use in case of loss of primary environment</td>
</tr>
<tr>
<td>Capacity delivery</td>
<td>Delivery of a specified quantity of processing capacity</td>
</tr>
<tr>
<td>Capacity planning</td>
<td>Monitoring of capacity usage and trends to identify likely future performance or capacity issues</td>
</tr>
<tr>
<td>Capacity upgrades</td>
<td>Provision of additional processing capacity in response to customer request</td>
</tr>
<tr>
<td>Security reviews</td>
<td>Review of end-to-end security</td>
</tr>
<tr>
<td>Application Monitoring</td>
<td>Monitoring of application and some aspects of underlying platform to detect and correct problems, and to prevent potential problems</td>
</tr>
<tr>
<td>Incident Management</td>
<td>Restoration of service after loss</td>
</tr>
<tr>
<td>Problem Management</td>
<td>Logging and root cause analysis of problems affecting service quality</td>
</tr>
<tr>
<td>Change Management</td>
<td>Control of changes to the environments and services</td>
</tr>
<tr>
<td>Release Management</td>
<td>Installation upgrading and patching of the EMS software in the environment</td>
</tr>
<tr>
<td>Service Reporting</td>
<td>Regular reporting on service levels, service quality, KPIs and key issues</td>
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Application Support Services

- Application Software Provisioning
- Application Support
- Technical Consultancy
- Implementation Services

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<td>Application Software Provisioning</td>
<td>Provision (including license fees) of EMS software for use by designated numbers of users in the environment.</td>
</tr>
<tr>
<td>Application Support</td>
<td>Resolution of problems with the EMS software, or use thereof.</td>
</tr>
<tr>
<td>Technical Consultancy</td>
<td>Resolution of technology-related questions to achieve best use of product.</td>
</tr>
<tr>
<td>Implementation Services</td>
<td>Implementation of EMS software into the hosted environment.</td>
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