Unified Communications and Collaboration (UC&C) Update

Session: 1
Track: CIO/G-6

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★ Why does the Army need UC&C?
★ UC&C Requirements
★ UC&C Challenges Unique to the DoD
★ Current UC&C Status
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★ Conclusions and Way Ahead
When referring to Unified Communications and Collaboration the DoD generally uses the term Unified Capabilities.

The DoD defines Unified Capabilities (UC) as the integration of voice, video, and data services delivered ubiquitously across a secure and highly available network infrastructure, independent of technology, to provide increased mission effectiveness to the warfighter and business communities.

UC integrates standards-based communication and collaboration services including, but not limited to: presence, instant messaging, chat, voice, video, web conferencing, and collaboration portals. These UC services are integrated with available enterprise applications -- both business and warfighting.

**UC&C must be seen as the aggregation of all these services to provide a robust communications solution.**
UC&C refers to both synchronous and asynchronous services.
UC&C is rapidly becoming a necessity for the Army. Connecting users throughout the enterprise regardless of location to facilitate communication and collaboration is a critical part of shared situational awareness and ‘A Soldier's Story.’

In a state of persistent conflict, the timely, secure passage of information must be the primary goal.

A modern, robust communication and collaboration toolset at every soldier and civilian’s disposal is the key to achieving that goal.
<table>
<thead>
<tr>
<th>Capability</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presence</td>
<td>Presence is a service that provides notification of another user’s availability to communicate. This is a limited presence capability, indicating whether a user is online/offline as well as statically configured presence information.</td>
</tr>
<tr>
<td>Instant Messaging</td>
<td>Instant Messaging refers to one-to-one, one-to-many or many-to-many service that enables users to create, join, maintain and terminate interactive sessions to exchange text data.</td>
</tr>
<tr>
<td>Chat</td>
<td>Chat refers to one-to one, one-to-many and many-to-many service that users to create, join, maintain and terminate interactive sessions to exchange text data. It differs from instant messaging in that the ‘rooms’ can be set-up ahead of time, retain history and be persistent.</td>
</tr>
<tr>
<td>Voice and Conference Calling</td>
<td>Voice Conference Calling is a many-to-many service that enables users to create, join, maintain and terminate interactive voice conferencing sessions. This capability can be provided via conventional telephony end instruments or peripheral desktop/laptop audio appliances.</td>
</tr>
<tr>
<td>Video Teleconferencing</td>
<td>Video Teleconferencing is a many-to-many service that enables users to create, join, maintain and terminate interactive voice and video conferencing sessions. This capability can be provided via desktop audio/video appliances or dedicated, studio-based audio/video systems.</td>
</tr>
<tr>
<td>Web Conferencing (Application and Whiteboard Sharing)</td>
<td>Web Conferencing is a many-to-many service accessible with a web browser that enables users to create, join, maintain and terminate interactive collaboration sessions that integrate voice, video, chat, screen-sharing, white-boarding, application sharing, as well as other collaboration tools. Web conferencing service can be accessed from a networked personal computer and may rely on peripheral audio/video appliances to enable certain collaboration features.</td>
</tr>
<tr>
<td>Phone Integration and Unified Messaging</td>
<td>Unified Messaging is the integration of different electronic messaging and communications media technologies into a single mailbox interface, accessible from a variety of different devices. The electronic messaging and communications media technologies include e-mail, voice/video mail, text messaging, RSS feeds, calendaring and rich presence.</td>
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Implementing UC&C within the Department of Defense presents challenges not typically found in the typical commercial setting. These include but are not limited to:

- **PKI/CAC Authentication**
  - Vendors must CAC enable UC&C products in order for them to be viable across the DoD Enterprise

- **AS-SIP**
  - Assured Service is required by the Unified Capabilities Requirements Document (UCR)

- **Inter-Forest Communication**
  - Commercial users can typically authenticate UC&C users to one central domain and forest whereas the DoD will continue to function with multiple forests & domains.

- **Users on the Tactical Edge**
  - A large portion of DoD UC&C users will be collaborating from a Disconnected-Intermittent-Limited (DIL) environment which greatly affects the system architecture which can reasonably be deployed.
**Purpose**
Evaluate capabilities and interoperability between existing investments and emerging technologies to inform future Unified Communications & Collaboration (UCC) development decisions.

*SUPPORTS CIO / G6 GOALS:*
#3: Realize economies and efficiencies while improving effectiveness
#4: Enable Army interoperability and collaboration with mission partners

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**Pilot Phase**

- FY 2010: HQDA Microsoft OCS Pilot
- FY 2011: ITA Avaya Rollout
- FY 2012: Cisco Interoperability Testing
- FY 2013: Cisco CUPS Federation with 311th
- FY 2014: DISA Collaboration Services Integration

**Enterprise Adoption & Standardization Phase**

- Pre-BRAC Strategy
- COA Analysis
- Post-BRAC Strategy
- HQ FORSCOM Move Complete
- HQ AMC Move Complete
Current UC&C Activities

- Requirements Definition and Refinement
  • Stakeholder Socialization/Buy-In

- COTS UC&C Solutions Pilots
  • Vendor Analysis
  • Requirements Gap Analysis
  • Test Plans

- Business Case Development

- DoD & Community Coordination
  • Working Groups
  • Collaboration with other Services & Organizations
  • ORPB
  • Pilot Coordination
CIO/G6 has been coordinating an OCS pilot with end users from HQDA, AMC, FORSCOM and SDDC.

The pilot is currently closed to new users and is scheduled to sunset in March 2012.

CIO/G6 is investigating ways to keep the OCS service running for current users and possibly adding more users.

The current architecture was designed for a limited pilot only but can possibly be expanded to support additional users.

However, a new architecture must be designed and implemented in the DISA DECC to support an enterprise level user base.

CIO/G6 is considering all options. More information to come....
## UC&C Interoperability Testing

### Chat/Presence Interoperability

<table>
<thead>
<tr>
<th></th>
<th>Cisco (XMPP)</th>
<th>Microsoft (SIP)</th>
<th>Tandberg</th>
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<tbody>
<tr>
<td><strong>Cisco (XMPP)</strong></td>
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<td>1</td>
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1. XMPP Federation – Presence inconsistencies
   - Cisco -> Microsoft

### Voice Interoperability

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<td><strong>Microsoft</strong></td>
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<tr>
<td><strong>Tandberg</strong></td>
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2. SIP registered Tandberg endpoints work but H.323 registered endpoints do not work at the moment (SIP Normalization Issue)

### Video Interoperability

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<td><strong>Microsoft</strong></td>
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# UC&C Interoperability Testing

## Cisco MeetingPlace

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<th>Escalation of chat</th>
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</tr>
<tr>
<td><strong>Microsoft</strong></td>
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</table>

1. MeetingPlace 7 does not integrate with OCS 2007. MOC cannot initiate the escalation but can join if CUPC escalates
2. Not currently working because of Cisco-Microsoft (SIP/Codec) video issue
3. DTMF digits from MOC to MeetingPlace does not work

## Microsoft LiveMeeting

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<td><strong>Cisco</strong></td>
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<td><strong>5</strong></td>
<td><strong>4</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Microsoft</strong></td>
<td></td>
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4. Cisco CUPC cannot escalate from an IM session directly to a LiveMeeting session.
5. Cisco CUPC clients cannot *create* an Ad Hoc meeting when not configured as an OCS user, but it can join when invited

- **Currently Working**
- **Not Fully Functional**
- **Not Possible**
- **Not Applicable**
The Pentagon Renovation Program (PENREN) has acquired an Avaya Application Server 5300. The AS5300 is a complex UC&C system capable of delivering enterprise IP telephony, video, presence and instant messaging in an assured service environment.

- The AS5300 has been transferred to the Information Technology Agency (ITA) for implementation.
- ITA is currently standing up the AS5300 to meet ‘Spiral One’ by November 2011.
- Spiral One will deliver VoIP and Video to a limited test user base within the Pentagon.
- Spiral Two is expected to expand the services and user base.
In order for an enterprise UC&C solution to be effective it must be able to communicate with solutions from other services and organizations.

To that end, the Army is currently collaborating with the other services on their UC&C efforts:

- Army is working with DISA on Spiral 1 of the VoIP implementation as well as strategic planning for the future of the collaboration tool sets.
- Army is working with Air Force on strategic development of their plan to implement enterprise Microsoft OCS/Lync.
- Army is collaborating on lessons learned by USMC in their deployment of Avaya’s AS5300.
The Army is currently working with industry leading UC&C vendors to develop DoD Specific Business Case for Unified Communications and Collaboration.

High Level Considerations include:

- A reduction in total time spent on in-person meetings to review documents; desktop sharing will reduce interoffice travel time
- Improved timeliness of communications between officers due to online presence; reduced cycle time in identifying availability
- More effective remote communications made possible by more efficient, less expensive video that can be launched on the fly
Migrate community thinking from VoIP to holistic UC&C
  • VoIP is a monumental first step…but need to prepare for next step

Focus on Architecture
  • As telephony refresh continues throughout B/P/C/S focus needs to expand to include the collaboration pieces.

Coordinate UC&C efforts within Army
  • Consolidate stovepipe solutions

Focus on Interoperability
  • Solutions will need to communicate with DISA managed service and other agencies and coalition partners.

Cost Benefit Analysis
  • Conduct a CBA of UC&C for POM Planning