Embrace Workstream Collaboration to Transform Team Coordination and Performance

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Digital business demands a high degree of collaboration agility to improve team coordination and performance. Application leaders involved in digital workplace programs should exploit workstream collaboration as a new work style for conversationally driven teams.

Key Challenges

- Teams find that persistent conversation via email and enterprise social networking applications lacks cohesion, while instant messaging, web conferencing and chat applications lack persistence.
- Workstream collaboration addresses persistent conversation but is not the best option for all types of collaboration, especially those that are strongly document-centric.
- Workstream collaboration is an emerging technology being offered by a variety of vendors, making optimal choice difficult to ascertain.

Recommendations

Application leaders involved in digital workplace programs should:

- Identify high-impact use cases by targeting activities where collaboration is conversationally driven.
- Elevate enterprise success in a rapidly changing market by partnering with enterprise architecture and technology innovation leaders to create a unified workstream strategy.
- Promote innovative ways of working by flexibly managing early deployments until consolidation decisions become clear.

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By year-end 2022, 70% of teams will rely on workstream collaboration as the primary means of communicating, coordinating and sharing information between team members, displacing email.

Introduction

Organizations have long sought to improve team coordination and performance by removing barriers that impede collaboration. Deployment of productivity suites, document management, file sharing, unified communication and social software technologies has played an integral role in those efforts over the past 20 years.

First there were…

Documents: Virtual workspaces emerged in the 1990s as the first instances of enterprise web emerged. These collaborative applications often acted as a hub for document-centric activities. In addition to having a content library organized into folders, they typically also included asynchronous discussion forums, a group calendar and some level of task coordination. Microsoft Office SharePoint Server 2007 eventually came to define and dominate this market.

Unified communications: Real-time communication tools such as on web conferencing and instant messaging emerged in the 1990s as well. These enabled individuals and groups to message each other, share screens and conduct online meetings where they
could share documents. Web-conferencing vendors often included polls and chat sessions as well as group video and audio capabilities. Examples of products in this market include Microsoft Skype, Cisco WebEx and Jabber, and IBM Sametime.

*Enterprise social networking:* The emergence of social tools within the enterprise in approximately 2008 promoted a consumer-centric user experience found in sites such as Facebook. Enterprise social networking (ESN) applications broadened the concept of a team workspace by making them more visible and open-ended, relying on activity streams and community spaces to get work done. IBM Connections, Jive Software and Microsoft Yammer exemplify these products.

While all of these advancements improved collaboration by solving particular pain points, each type of tool has its own drawbacks as well:

- Document-centric workspaces do not handle teams that are very dynamic and conversationally driven, where the role of content is much less critical to deliver on team objectives.
- Real-time collaboration tools are ephemeral. Once people leave a session, information is often lost, making it difficult for teams to maintain situational awareness of what others were doing.
- ESN applications provide greater visibility and transparency, but such free-form environments lack the type of team structure needed to coordinate activities.

**The rise of workstream collaboration**

The result has been a varied collection of tools for collaborative workspaces, each with its own form of messaging. Employees find themselves switching between different content and collaboration tools, and often fall back on email as the most common way to communicate across those silos. While each tool can include a messaging capability to address its own use, such fragmentation of a team’s conversation can cause a range of productivity, motivation and performance issues, including loss of productivity, coordination miscues and lower work quality that ultimately affects the team deliverable.

For instance, document-centric workspaces can be very effective at enabling teams to co-create, edit and finalize deliverables (such as a report, RFP response, etc.). However, they are not strong in handling team communication needs. Likewise, ESN applications and unified communication tools have not proven to be effective options for highly collaborative teamwork. ESN applications are often too open-ended and are better-suited for groups not concerned with a particular deliverable, or for online communities and professional networking scenarios where participation is less formal. In the case of unified communications, such tools have excelled at addressing team needs for virtual meetings or ephemeral messaging — but their use is more functional by nature and not well tied to the flow of work overall outside the meeting or ad hoc messaging.

We must also consider the rise of nonroutine work. Nonroutine work by its nature often requires teams to conversationally coordinate activities and make decisions based on whatever
circumstances exist for a given situation rather than on prescribed procedures. There is also the consumer experience many employees now have in mobile messaging. On top of these, additional evidence reported in the Wall Street Journal\(^1\) and in articles from Dell and Intel\(^2\) as well as McKinsey\(^3\) also signals a change in how application leaders should think about a more conversational teamwork approach.

What was missing in the market was a collaborative workspace. A workspace designed and purpose-built on a unified conversation model that is persistent, but that also avoids the pain points of email through contextual integration with the applications and content needed by teams "in the flow of work."

This market gap created an opportunity for vendors to deliver a new type of collaborative workspace that is conversation-centric. As is often the case, it took the enterprise software market longer to find a messaging service that was not simply a repackaging of consumer tools. Workstream collaboration is that enterprise-focused solution that delivers "conversation as a layer" (see Figure 1). It encapsulates the discussions, content and tasks within a team while contextually integrating the applications needed by individuals and the group to get work done.

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**Conversational interaction:** Refers to the transmission of messages from one person to another individual directly or in a group context. Email is one of the most prominent forms of conversational interaction, but other examples include discussion forums, activity streams, mobile messaging, and internet-based audio and video. One of the original forms of conversational interaction was Internet Relay Chat (IRC), which created chat rooms where conversations persistent in a dedicated group space. IRC is arguably the genesis of what today Gartner is calling workstream collaboration.

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Application leaders have the opportunity to work with business and IT colleagues to embrace workstream collaboration as part of a strategy to promote high-performing teams. This research offers insight on the origins of workstream collaboration, how to assess market reaction and how to create a governance model.
Workstream collaboration: Creates a persistent, shared conversational workspace that helps groups initiate, organize and complete work. It integrates direct and group messages, alerts, notifications, activity streams, files, tasks, bots, and real-time audio and video into searchable groups or channels.

Analysis

Identify Activities Where Collaboration Is Conversationally Driven

Collaboration technologies have long been deployed to improve team communication, information sharing, coordination and effectiveness. Most organizations can point to some level of success when it comes to team collaboration. Given the length of time organizations have been addressing
business collaboration needs, most strategists realize that high-performing teams require a mix of leadership, sense of purpose and team culture to succeed, in addition to tools.

When it comes to pinpointing use-case scenarios for workstream collaboration, application leaders should identify activities where team effectiveness is highly dependent on conversational interaction, due to:

- The dynamic nature of the work
- The requirement for team members to have situational awareness of what’s going on
- The need for team members to self-synchronize their efforts to those of team members because they are juggling multiple assignments at once

Below we call out some specific actions application leaders can consider:

**Evaluate specific team-driven work scenarios and associated success measures**

Gartner's client inquiry trends reveal that the most effective initial application scenarios for workstream collaboration revolve around teams involved in work activities:

1. That are nonroutine (not well-structured or prescribed)
2. Where automation and process flows are implicit
3. Where groups regularly make decisions outside normal guidelines
4. Where communication velocity is high and iterative
5. Where visibility and transparency are important to team coordination
6. Where searching conversation history improves team effectiveness
7. Where teams make decisions based on a range of dynamic factors

Use cases and teams that match this profile will likely find workstream collaboration to be an effective tool for improving performance and delivering superior results. Figure 2 shows some examples.
**DevOps:** DevOps reduces friction between IT development and operations. As a result, teams must collaborate in a diverse environment requiring the use of a combination of previously siloed tools to achieve results. Unifying conversations, coordinating tasks and centralizing application interactions in a workstream environment can help DevOps teams maintain situational awareness of what's going on. This allows team members to learn from each other's work and to collectively interact with their core systems (see "Choosing the Right Tools for Your DevOps Toolchain").

**Cross-functional collaboration:** Collaboration across boundaries within an enterprise often brings groups together with different working styles, methodologies and teaming practices. Unifying conversation can be a key means of promoting agility and information sharing to keep the group coordinated. For instance, market research and product management teams often interact with diverse groups across the company. A workstream environment could help unify those conversations into a single workspace.

**Rapid incident response:** When the unexpected happens, organizations quickly form teams to resolve the issue before it escalates and causes additional secondary and tertiary problems. This often requires teams to form comprising people from different backgrounds and with different levels of expertise. There is often no set process for teams to handle every scenario confronting them. This type of dynamic team environment means that conversations play a central coordinating role.

**Exception handling:** While routine exceptions are often automated, that is not always the case. Complex exceptions and unanticipated exceptions can require more-diverse manual handling and ad hoc team building, including locating relevant experts. Workstream collaboration can help concentrate team efforts in a way that leverages conversation to brainstorm and transfer insight from experts.
**Innovation:** While this is more of an edge case today, workstream collaboration can be used for more open-ended groups and communities that are thinking in an out-of-the-box manner while focusing on a challenge. Conversation is a well-understood means of knowledge transfer and best-practice sharing. Innovation scenarios have often been supported by traditional ESN applications, but there are opportunities for innovation teams to leverage workstream collaboration as well.

Each of these scenarios likely has metrics of some sort (such as key performance indicators [KPIs]) that can be used to gauge whether the workstream collaboration application made a difference. Direct cause-effect is difficult in many (if not most) cases, but might be inferred based on other metrics (such as cycle time, defects, number of ideas, time to resolution of issues, etc.). However it is done, linking success measures to workstream collaboration is important to prove business value to stakeholders and champions.

**Apply best-fit workstream collaboration option to improve team coordination and performance**

Another aspect of workstream use raised in client discussions is the need to understand the differences in the type of workstyles teams and individuals have, the unique integration needs into other tools that groups rely on, and how relationships and team culture affect participation:

- Some teams are highly mobile and virtual, and are rarely (if ever) in the same physical location. This may mean prioritizing the need for audio/videoconferencing.
- Other teams are highly conversational around the content and data contained in a business application such as Salesforce or SAP, which may mean prioritizing integration with those systems.
- Some teams may have specific needs in terms of security and compliance, which may mean prioritizing e-discovery, legal hold, data loss protection or other regulatory-specific features.
- Some teams involve external parties, which might be added as guests or require interoperability between workstream products. Indeed, external use of workstream collaboration could be a highly strategic use case, although this scenario is not a mature one for many vendors.

In virtually all situations, access to conversation history over the lifetime of team activities creates a highly valuable knowledge base that current and future teams can leverage to improve coordination and performance.

The challenge for application leaders is to more deeply understand the nuanced ways people and teams coordinate, as well as the ingredients in the tooling and work practices needed to improve performance and achieve superior results (see Note 1). These attributes can lead to different solutions being selected and deployed.

**Assess deployments to gauge effectiveness and make any adjustments to future efforts**

When workstream collaboration is introduced into an organization, it is helpful for those governing the overall effort to establish feedback loops. Such feedback will provide insight into which
practices led to effective results and which practices did not meet expectations at some level, or caused any type of failure. Types of feedback and assessments can be accomplished through:

- Interviews
- Focus groups
- Storytelling techniques
- Polls and surveys
- Online communities
- Reporting and analytics
- Measurement against KPIs
- Usability studies

The goal is to apply a continuous improvement methodology to workstream collaboration. Synthesizing varying points of view into a cohesive collection of feedback, which then guides ongoing project activities as well as subsequent workstream activities, leads to higher-performing teams and ultimately to a more competitive and effective organization.

**Recommendations for application leaders involved in digital workplace efforts:**

- Identify the specific team-driven work scenarios that will benefit most from the use of workstream collaboration tools.
- Review the workstyles of teams and individuals as this will also assist in identifying where workstream tools are a best fit.
- Institute a method for collecting feedback from groups using workstream tools across the organization, and for then applying this experience to existing and subsequent initiatives.

**Partner With Other IT Leaders to Create a Cohesive, Unified Strategy**

Application leaders are often responsible for a collection of business systems related to a particular business area. It is not uncommon for strategists to narrow their technology selection and deployment efforts to solutions that are purpose-built to satisfy their own needs. However, workstream collaboration is an emerging market where vendors are rapidly updating product features and expanding capabilities into new areas. For instance, a workstream vendor that targets a DevOps scenario is likely to expand its offering to address other use cases, such as cross-functional collaboration, rapid and incident response, or more general scenarios such as meetings.

Gartner estimates end-user spending on workstream collaboration at $171 million for 2016. It forecasts a compound annual growth rate in spending of 96% to reach $4.93 billion in 2021, creating opportunities for both emerging and established vendors. To avoid proliferation of tactical decisions resulting in a collaboration portfolio with overlaps and complexity, application leaders can refer to the market synopsis below to understand how their own decision and desire to select a
particular tool might need to be optimized against the needs of other IT leaders interested in contrasting use cases.

**Expect vendors to move from their core area of strength to handle more use cases**

Vendors entering the workstream collaboration space are coming into it from different heritages. Unified communications and cloud office vendors tend to emphasize their existing market competency and offer out-of-the-box integration with their established tools and platforms. Native workstream vendors, such as Atlassian (HipChat) and Slack (Slack for Teams, Slack Enterprise Grid), initially gained traction by appealing to a specific constituency, such as DevOps groups, but are broadening their appeal as more multipurpose team collaborative systems for use across the enterprise. Figure 3 illustrates some of the more prominent workstream collaboration vendors that we expect to move into the space today, along with their heritage market entry point into the workstream market (if applicable).
Vendors in workstream collaboration are delivering conversational workspaces that emphasize mobility, messaging, file and screen sharing, audio/videoconferencing, notifications, and bots, and that include a back-end extensibility framework for integration with other apps and services. Figure 4 illustrates the conceptual model organizations can use to assess their needs against vendor capabilities (see Note 2).
As this is a nascent market, it is highly likely that vendors will continue to adjust their strategies and product capabilities to meet customer demands and to differentiate competitively. New entrants will also continue — for instance, ESN vendor Jive could evolve its Jive Chime and Jive Daily mobile apps for the workstream space, business application vendor Salesforce could evolve Chatter or Quip, and EFSS vendor AeroFS with its Amium product could compete as a workstream player. Even Workplace by Facebook, which bundles a messaging client called Work Chat, could take on a workstream direction.

**Plan for vendors to address capability gaps while innovating in new areas**

While the entry of large vendors such as Cisco (Spark), IBM (Watson Workspace), Microsoft (Teams) and Google (Hangouts Chat) into the workstream collaboration market validates the space, it does not mean that other vendors are less relevant or that new entrants will not continue. Nor does it signal a stabilization of application features or an end to creative innovation. Gartner expects that functionality and platform capabilities will continue to expand to support new use cases and address existing gaps. In the coming 12 to 18 months, application leaders should expect advancements in the following areas (see Note 3):
Task coordination and workflow integrations
Content creation, revision and sharing
Embedding and template capabilities
Security and compliance
"Teams of teams" (scaling to handle large-scale/long-running projects)
The smart workspace
Conversational interfaces (involving artificial intelligence)
Enterprise unified communications
Meeting rooms
External collaboration (with customers and business partners)
Interoperability (including between companies)

Recommendations for application leaders involved in digital workplace efforts:

- Identify business activities that involve team collaboration and where results could be improved using a workstream-type application.
- Evaluate existing workstream applications to gauge success stories and failure experiences.
- Review existing enterprise investments in market areas adjacent to workstream, as the enterprise may already have access to such tools.
- Expect a continued high rate of product innovation and vendor consolidation in this nascent market.

Promote Innovative Ways of Working by Flexibly Managing Early Deployments

Given the variety of vendors jostling for position and business relevancy by focusing on different use cases and different aspects of team workstyles, we outline below effective ways for organizations to manage this diversity and deliver business value.

**Employ a bottom-up approach focusing on team needs**

As the fundamental unit of work for workstream collaboration is the team activity, many workstream products target the contextual and situational needs of teams. Because of this, workstream is often selected and deployed via a bottom-up approach. Historically, bottom-up approaches have lacked an overall governance framework that encourages innovative exploration of how the technology can help the business. Without that oversight, a bottom-up approach can result in proliferation of tools, which leads to excessive licensing and support costs as well as confusion by business leaders and employees.
Gartner’s ACME framework is one approach to help guide a bottom-up approach that addresses the specific needs of teams, while allowing decision-making steps to reuse tools when it makes sense to do so (see "How to Make Collaboration Work With Gartner’s ACME Framework"). ACME stands the activity, context, motivation and enabling technology. The framework provides application leaders with a means to understand a collection of team activities at a more detailed level, in addition to their unique situational needs and local cultural factors related to team solidarity. When strategists and project leaders get to the point of selecting a workstream collaboration product, they can gain insight from past and ongoing efforts to reuse past solutions or recommend a tool that empowers the workstyle of that team more effectively.

By employing ACME, application leaders can discover groups across the enterprise that demonstrate similar work dynamics and team behaviors — for instance, those involved in time-sensitive, rapid-response situations, or those involved in addressing field incidents where Slack or Atlassian’s HipChat might be appropriate to recommend. Conversely, there may be global teams that require heavy use of existing enterprise audio/video services as a primary means to coordinate and support group interactions in physical meeting rooms. In such a case, Cisco Spark or Microsoft Teams might be the better choice, as part of an ACME process.

**Avoid overstandardization at this time**

Given the early stage of the workstream collaboration market and its products, a best practice for application leaders along with enterprise architects to follow is to closely manage the diversity of tools as organizations explore what works and what does not. Expect mixed results. At this stage, setting a strict standard can hinder innovation and mean committing to a vendor that is not going to iterate rapidly to keep pace with competitive developments and technology advancements.

Focus on a small collection of vendors — we envision two or three. This will enable you to manage a controllable level of diversity while optimizing feature overlaps and ownership costs. For instance, organizations committed to Microsoft Office 365 may find Microsoft Teams an effective tool to handle general collaboration needs. Likewise, organizations where Google G Suite is their productivity foundation may want to leverage Hangouts Chat. However, it is entirely credible that valid use cases will also exist where Slack (DevOps) or Cisco Spark (meetings) could deliver the best value. Overall, evaluate and select vendors’ workstream solutions based on ACME in alignment to governance and enterprise architecture guidelines.

Avoid the temptation to standardize now. Such action would be premature as we expect shifting market dynamics with vendors differentiating on multiple levels. Deploying a general workstream collaboration tool could leave teams that have specific integration needs frustrated, in turn affecting effective adoption or leading to unsanctioned use of other tools. On the flip side, standardizing on a tool that is narrowly focused on a limited number of use cases will make specialized teams happy but constrain broader adoption, in turn frustrating business leaders seeking to improve team coordination and performance across the enterprise — again, leading to potential use of unsanctioned tools.

A less rigid approach enables application leaders to balance the uncertainty in early market dynamics and minimize risks of overcommitting to a single vendor too early. Supporting some level of diversity also enables a better fit-for-purpose selection for varying team needs. That said, it’s also
prudent to govern the diversity of products to a reasonable number and leverage ACME as part of that governance effort to reinforce reuse whenever possible, as driven by team activity needs.

**Anticipate vendor consolidation — but also disruption**

Even though workstream collaboration is in its early stages, as with many other markets in the social software space, some level of consolidation is inevitable. Given its licensing suite (E1, E2, E3), Microsoft’s entry will make Microsoft Teams available to a very large constituency. We expect the vendor to make Microsoft Teams the centerpiece of its collaboration strategy, just as it did with SharePoint (on-premises) a decade ago. Cisco and Slack are also forging partnerships with a variety of vendors, including business application vendors such as Salesforce. This will open the door to process-centric team applications where teams coordinate around business data as well as conversations. Atlassian’s recent acquisition of Trello opens the door for HipChat to include better task coordination within its core set of capabilities (rather than as an app plugin).

As these market dynamics progress, influenced by first movers, larger platform vendors will have time to build out partner relationships beyond their homogeneous capabilities to advance into more specific team scenarios. This will make it difficult for smaller vendors to thrive unless they continue to innovate in ways ahead of large-scale vendors. However, that can push them to specialize and so lessen their broad appeal. The result will likely be some level of consolidation three to five years out.

Still, there are compelling areas in which vendors can innovate as well. We see very strong synergies between workstream collaboration and conversational applications and platforms that are AI-driven. What IBM is progressing on with Watson Workplace and Watson Work Services is an example of how workstream vendors might embed AI capabilities. The smart workspace is another area ripe for innovative disruption to the status quo as well (see "Align Smart Workplace Efforts With Employee Needs for Knowledge-Based Work"). As integrated workplace management system (IWMS) vendors build out IoT capabilities that provide insights to physical environments, workstream collaboration vendors can consume those insights to deliver a new wave of team insights and custom applications. Overall, the future is bright for application leaders to address team needs to improve coordination and performance in new ways.

**Recommendations for application leaders involved in digital workplace efforts:**

- Combine a bottom-up approach to selecting workstream collaboration solutions with top-level guidance and coordination, as part of an overall collaboration governance effort.
- Use Gartner’s ACME framework to help reduce redundant investments. Because of the wide range of group needs, most enterprises will benefit by having more than one workstream solution.
- Monitor and respond to use of unmanaged workstream collaboration consumer or business freemium services by employees for work.
- If workstream collaboration tools are already being used, analyze the results to date of those tools, including benefits and risks; otherwise, seek opportunities to pilot a workstream application.
Avoid overcommitting to a single vendor or solution, as options may be change significantly in several years.

Case Study

R/GA is a global agency headquartered in New York City. R/GA connects its expanding workforce across the world through a workstream collaboration solution based on Slack. The agency focused on use cases where collaboration across departments, disciplines and offices was key to delivering compelling results.

Conversations across offices and time zones are an industrywide challenge. R/GA has found workstream collaboration to be an essential means of improving this type of distributed, cross-functional team collaboration. Slack’s conversational workspace allows everyone from different areas to participate and contribute regardless of role or location. App integrations into the workspace help contextualize tasks and application access — acting like a portal to a range of services. The ability for teams to customize the environment to meet their own workstyle and preference for using different tools is another advantage. An internally developed bot, RGABot, enables people to see who’s working on what projects, and how people are connected. The bot interfaces with R/GA’s internal Project and Skills database system, and acts as an expertise location mechanism (including finding information on experts’ past projects and their availability to take on new work). Clients also participate in Slack channels, reducing cycle time. R/GA has also used Slack in community scenarios as well, such as "Women in Tech."

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.


"Hype Cycle for the Digital Workplace, 2016"

"Digital Disruptions in the Unified Communications and Collaboration Market, 2017"

"Cool Vendors in Social Software and Collaboration, 2016"

"Slack Versus Microsoft Teams — Which Workstream Collaboration Product Is Best for You"

Evidence

1 Nonroutine cognitive jobs are providing the most job growth. (Source: Wall Street Journal, "The Rise of Knowledge Workers Is Accelerating Despite the Threat of Automation.")

2 Over 80% of millennials say workplace technology can sway where they chose to work. Fifty percent of employees and three out of five millennials believe that in-person conversations will
become outdated due to technology advancements. (Source: Dell, "Dell and Intel Future Workforce Study Provides Key Insights Into Technology Trends Shaping the Modern Global Workplace.")

3 Sixty percent of all occupations have at least 30% technically automatable activities. (Source: McKinsey & Co., "Harnessing Information for a Future That Works.")

Note 1 Workstream Decision Criteria
Below are some of the line items that can help decision makers apply the best-fit workstream collaboration option:

- User experience needs and workstyle preferences
- Process/role support
- Project management/task support
- Security, compliance and policy management
- Other types of methodology support
- Access requirements to content
- Access requirements to data
- Alert/notification needs
- Search needs
- Real-time communication needs
- Other integration needs
- Group administration needs
- Policy control needs
- Personal preferences
- Licensing implications

The items below are indirect influences strategists might also consider:

- Corporate communication factors
- HR communication factors
- Legal and audit factors
- Management communication factors
- Contractual and support factors
Note 2 Workspace Collaboration Core Capabilities

Persistent conversation space: A persistent conversation space forms the primary user experience. It is typically specific to a team and divided into channels based on topical areas the team wants to establish. Direct messaging enables private conversation.

Awareness and discovery: Awareness and discovery capabilities provide a high-level view of all the persistent conversation spaces where someone is part of a team. They also provide the overall search mechanism to locate people, content and spaces across the platform. This component could also include presence, alerts, notifications, suggestions and recommendations. Essentially, it acts as a personal dashboard for individuals, unifying their view across teams and channels.

File sharing: File sharing enables group content, such as documents, spreadsheets, graphics, video clips and presentations, to be posted within the space and/or channel.

Audio/videoconferencing and screen sharing: Screen sharing enables team members to share information between individuals or groups. Audio/videoconferencing is typically available for use by groups within the workstream collaboration platform. While not intended to be a distinct enterprisewide capability as found in unified communication platforms, it can be integrated into those services and, in some ways, is competitive with them.

Task handling: Task handling includes support for the creation, assignment, coordination and completion of work activities using a variety of user experience techniques (e.g., boards, cards, charts). Workflow integration to update business and other operational systems is an important linkage for workstream vendors, often implemented via bots and an app library (described below).

Bots and app library: Bots provide a conversational or textual form of interfacing with back-end systems, often to automate a collection of tasks but also to perform inquiries or location information. The app library enables people to plug in applications that contextualize a certain work activity within a conversation space or channel, either embedded in the conversation stream itself or interacted with in other areas (e.g., sidebar, tab).

Workstream collaboration platform: The underlying platform includes all policy, administration, configuration, security, compliance, analytics, AI and reporting capabilities.

Note 3 Workstream Collaboration Futures

- Task coordination: While some vendors include basic levels of task coordination, Atlassian's acquisition of Trello and expected integration with HipChat is a signal that richer project management features are on the horizon. These can be expected of all vendors.

- Embed and application templates: Workstream collaboration tools are pretty generic in their design. While this increases reuse and flexibility, having a contextual design for specific work scenarios would provide a more purposeful user experience.

- Security and compliance: In virtually all early markets, issues related to administration, security, configuration and compliance can lag as vendors focus on buyers. As these tools evolve to become more "enterprise-ready," we expect more native features and partner add-ons to address industry-specific and generalized requirements (e.g., FINRA, HIPAA, eDiscovery).
"Teams of teams": Teams often work interactively with others teams for large-scale projects or projects that occur across organizational boundaries, such as divisions or functional units. Today, workstream collaboration vendors are methodology-agnostic. Over time, workstream vendors will cooperate with program and project management vendors or deliver native support for specific program/project/process structures that enable networks of teams to operate more effectively.

Smart workspace: As the IoT becomes more mainstream, the physical workspace is becoming more digitalized. A smart workspace creates opportunities between IWMS and workstream collaboration vendors to improve team performance, by adding proximity/location and other application functionality via IoT and related technologies (e.g., next-generation whiteboards).

Conversational interfaces: Consumer markets already have a variety of conversational interfaces (e.g., Amazon Echo, Microsoft Cortana, Google Home). As enterprise software and endpoints adopt AI-related technologies, workstream collaboration vendors will expand the type of natural interfaces and devices from which people can interact with colleagues and address work items. For instance, bots in various forms will become an increasingly common and capable way of adding assistance to workstream activities.

Enterprise communications: As workstream solutions become increasingly mainstream, the desire to integrate these with voice, telephony and video, rather than create a separate enterprise investment, will increase. These tools will increasingly interoperate with enterprise telephony and unified communication investments (embedded or via plug-ins).

Meeting rooms: As next-generation meeting room experiences evolve, workstream collaboration could provide a bridging mechanism for the pre/postwork as well as become the collaborative hub for the meeting experience itself — connecting with next-generation whiteboards and other meeting room technologies.

Workstream for external collaboration: The workstream model is increasingly being seen as an effective way to enhance customer service and business-to-business collaboration. For instance, customer interactions could be persistent in a collaborative workstream between a customer and the support organization, or between an organization and its channel partners working on a joint product.

Interoperability: Some level of federation, even if just basic messaging passing, will likely evolve as organizations strive to use workstream tools externally. Initially this will be driven by vendors that take on the integration themselves (such as Sameroom, which was acquired by 8x8).
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