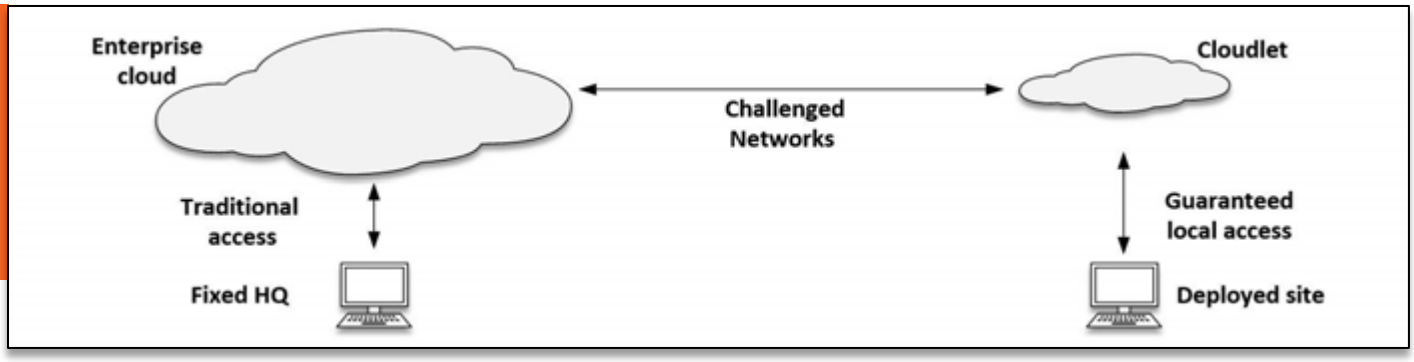
CASE STUDY: **Replication to a Tactical Cloudlet**

Delivering data to the tactical edge



Military organizations around the globe rely on iOra to deliver data over challenging networks

With the increasing drive to the cloud the problem a growing 'dependency gap' is emerging where an increased demand for cloud-based services is not matched by the availability of connectivity to the cloud. Users dependency on data to manage and direct operations has grown exponentially, whether it is determining the latest currency rate, or perhaps more critically viewing the latest operational picture.

In effect, these network disadvantaged users are being excluded from reviewing or contributing to operational planning and forced to operate in an environment where the availability of key operational data is just simply not accessible. For all the significant benefits that cloud-based data sharing can offer the enterprise, users who operate at the tactical edge of the network seem to be the forgotten userbase who typical contribution to the overall mission is critical.

Military planners have been drawn into the organizational benefits of investing in cloud technologies for scale and cost, only to find that users in remote and network disadvantaged locations are locked out of collaboration due to inadequate infrastructure. In a similar fashion the modern commercial maritime industry is controlled by changing operating regulations and the requirement to continually streamline operations to manage costs. Shipping operators have focused on the cloud to manage their operations but find that the cloud cannot be reliably accessed by the very users who need daily access to them whilst at sea.

Attempting to address this problem organizations are looking at ways of positioning sub-sets of data and services, termed Cloudlets, closer to the disadvantaged users. These Cloudlets provide fast and efficient local data processing capability where secondary data communication and consolidation technologies are used, merged, and update data to and from the primary cloud instance. Importantly these cloudlets are operated in the same way that users would interact with the primary information cloud. Access is totally transparent. In this way users are not excluded from the operational picture and can equally collaborate on programs and initiatives. These Cloudlets are effectively local cloud infrastructure that travels with the users to the remote locations, and locally store and process data for later broadcast back to the hub for inclusion as part of the primary cloud. As infrastructure they ensure the validity of the primary cloud as the 'single point of truth', but ensure that users at the network edge, in remote locations, are able to access data and enjoy the benefits of cloud-based services.

For a detailed military context, cloudlets provide the answer for

operations that involve forward deployed patrols or units that have a critical requirement to carry the latest operational data in a compact and always available capability. Whilst deployed on the mission, these units review and record additional data locally to the cloudlet for extended periods of operation. At the culmination of the operation where the patrol returns to the operational headquarters, data added to the cloudlet as part of the mission can be consolidated back to the primary cloud to ensure data integrity and ensure the maintenance of a 'single point of truth'. Cloudlets are increasingly being viewed as the missing part of the Cloud jigsaw, ensuring that all users irrespective of physical location and network capability can have guaranteed and continued access to the data and services of the enterprise cloud.

iOra develop a set of unique technologies that can deploy to and from installed or virtualized cloudlets, and importantly embed compression technology that ensures data can flow to all nodes on the network, even over the most challenging of network connections. In providing an architecture that includes cloudlets to support users at the tactical edge, organizations build a framework that supports total information sharing irrespective of network capability.

iOra

iOra is a leading global provider of the portal and file based data replication technology for organizations that need to operate in the most demanding environments. Our technology enables an intelligent, complete and transparent data exchange strategy that is consistent and guaranteed, irrespective of location or network connection. Trusted by Governments, corporates, military and global organizations, iOra technology has been selected for its proven capabilities in hostile and remote environments. iOra products replicate data between installed Microsoft SharePoint servers, or by creating virtualized servers or web applications for mobile users - thus enabling guaranteed access to up-to-date operational critical information.

Successfully deployed on tens of thousands of machines over networks with speeds as low as 8kbps, the product suite comprises:

iOra Epsilon is the iOra patented compression engine that is the core component of all iOra replication configurations. The world leading cross file compression technology ensures that data replication over the network is highly efficient.

iOra Geo-Replicator is a replication platform using iOra Epsilon that provides the tools for defining the scope of what is replicated, as well as managing secure, efficient, automated and transparent data updates.

iOra Monitoring provides a diagnostic user interface to support the operational deployment of iOra technology. The iOra Monitor maintains a graphical indication of the operational health of all deployed replication – both local and remote. When iOra detects a warning or network error, iOra can be used to drill down to more detailed diagnostic information.

Key military benefits of iOra Geo-Replicator:

- ***Improved collaboration*** and remote access to critical information
- ***Faster access*** to SharePoint and portal content in remote areas of the world
- ***Release of satellite bandwidth*** for other purposes
- ***Offline, disconnected access*** to critical Microsoft SharePoint and portal content
- ***Enhanced Continuation of Operation (CooP)*** capabilities

Customers

Over the years iOra has been deployed in applications with the following military organizations:

US Navy – Distance Support and other associated programs

NATO – Document handling System (DHS) in addition deployment to NRF 1GNC

US Marine Corp (USMC) – Tactical Collaborative Work Suite (TCWS)

US Special Operations Command (USSOCOM)

UK MoD – Army, Navy and Royal Marines deployment of replication services as part of the Defense Information Infrastructure program (DII)

Australian Department of Defense – various programs

Norwegian Defense Force linked to NATO deployment

British Royal Air Force (RAF) – RAFCCIS

US Army and Army Corp of Engineers (ACE)

Contact: support@iora.com